The Neglected Parental Mental Health Problem?

Borderline Personality Disorder: A preliminary exploration of borderline mothers' attributions of children's behaviour.

Claire Norfolk
Doctorate in Clinical Psychology
University of Edinburgh
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Abstract

Background

Despite the significant interpersonal difficulties experienced by individuals with borderline personality disorder ("BPD") and the high family aggregation of BPD, the relationship between borderline parents and their children has been largely neglected. The unstable relationships of borderline individuals are characterised by alternating views of others as alternately 'malevolent' and 'protective'. In experimental studies, the former representation dominates borderline individuals' view of other adults. However, the preliminary findings of studies of borderline parents indicate that borderline mothers may view the child from an idealised frame of reference. Parental attributions are proposed to play a critical mediating or moderating role in relation to parents' affect and behaviour. Exploring the nature of borderline parents' attributions may, therefore, offer valuable insight into the potential pathways underlying the increased psychiatric risk posed to their children.

Objectives

This study aimed to explore the borderline parents' child-centered attributions in relation to:

I. The degree of hostile intent attributed to ambiguous and negative child behaviour.

II. The perceived balance of control in negative adult-child interactions.

Method

Nine mothers with a confirmed diagnosis of BPD and nine mothers with mild to moderate mental health difficulties without a diagnosis of BPD completed a parent report questionnaire, which included measures of parental attributions, maternal depression and children's emotional and behavioural strengths and difficulties. Screening measures for personality disorder and psychological distress were also included, to exclude participants with potential Cluster B personality disorders or severe mental health difficulties from the control group.

Results

Non-parametric Mann-Whitney U-tests indicated that, relative to mothers in the control group, borderline mothers attributed significantly less hostile intent and considered significantly lower levels of punishment in response to ambiguous or negative child behaviour. No significant differences emerged in relation to maternal attributions of the balance of control in negative adult-child interactions. Exploratory analysis clarified the potential role of maternal depression and emotional and behavioural difficulties of participants' children in mediating or moderating these findings. All significant results were marked by large effect sizes.

Conclusions

The findings in the present study are consistent with the picture that emerges from empirical studies of borderline mothers, where maternal behaviour is characterised as helpless and frightened as opposed to hostile and frightening. The absence of attributions linked to parental abuse or hostile affect potentially call into question the assumptions of hostile and abusive parenting in borderline parents that dominate clinical texts, and may indicate different pathways to abuse in this population. The findings further pointed to the possibility of a permissive parenting styles and an idealised representation of the child in borderline mothers, potentially offering new insights into the possible mechanism underlying the risk to children of borderline parents.

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CHAPTER ONE

INTRODUCTION

Introduction

1.1.1 Personality Disorder

Personality may be defined as 'the combination of characteristics or qualities that form an individual's distinctive character' (Oxford Pocket Dictionary, 2009). According to the Diagnostic and Statistical Manual of Mental Disorders ("DSM"-IV) (American Psychiatric Association, 1994) and the International Classification of Diseases ("ICD"-10)(World Health Organisation, 2007, personality disorder is an enduring pattern of behaviour and inner experience that deviates markedly from the cultural norm in terms of either cognition, affect, impulse control or interpersonal functioning and cannot be better accounted for by another mental disorder or organic brain disease, injury or dysfunction (Appendix 1). While there is considerable overlap in the classification of personality disorder ("PD") in both diagnostic systems, the DSM classification system will be adopted in this study.

Originally, DSM classified personality pathology alongside other mental disorders on a single axis. However, with the introduction of DSM-III, personality disorders were classified separately on Axis II, reflecting the more enduring, pervasive and ego-syntonic nature of these disorders (Tyrer, 1991). DSM-IV recognises ten core personality disorders grouped into three clusters, Cluster A - odd or eccentric disorders: paranoid, schizoid and schizotypal PD; Cluster B - dramatic, emotional or erratic disorders: antisocial, borderline, histrionic and narcissistic PD; and Cluster C - anxious or fearful disorders: avoidant, dependent and obsessive PD.

1.1.2 Borderline Personality Disorder

History of Conceptualisation of Borderline Personality Disorder ("BPD")

Initial descriptions and conceptualisations of borderline personality arose from psychodynamic and psychotherapy traditions, with the recognition of a borderline presentation with intrapsychic characteristics that 'bordered' between more severe psychotic personality organisation and less severe neurotic personality organisation (Stern, 1938; Kernberg, 1967; Knight, 1953). In particular, borderline individuals were noted to present with significant difficulties relating to identity diffusion, primitive defenses (including splitting) and transient episodes of impaired reality testing (Kernberg, 1967).

Diagnostic Criteria of Borderline Personality Disorder

According to DSM-IV, BPD 'is a severe disturbance of personality functioning characterized by affective disruption, identity problems, poor impulse control and persistent difficulties in interpersonal functioning'. There is considerable diagnostic overlap between DSM-IV BPD and ICD-10 Emotionally Unstable PD - Borderline type (Appendix 2). Both systems highlight: i) disturbance of self-identity; ii) a pattern of intense and unstable interpersonal relationships; iii) frantic efforts to avoid real or imagined abandonment; iv) recurrent threats or acts of self-harm; v) chronic feelings of emptiness; vi) marked impulsivity; and vii) affective instability. DSM-IV also recognises two further criteria: inappropriate, intense anger or difficulty controlling anger; and transient, stress-related paranoid ideation or severe dissociative symptoms. At least five of these nine DSM-IV diagnostic criteria must be met for a diagnosis of BPD.

Limitations of the Borderline Personality Disorder Diagnosis

The DSM classification of mental disorders is based on the clustering of symptoms in clinical practice. While these clusters may indicate clinically meaningful patterns, DSM is an atheoretical system: the categorization, criteria and threshold for individual diagnoses are not empirically grounded and individual diagnostic categories do not necessarily relate to discrete aetiologies or treatment pathways. As a result, the degree to which individual diagnoses reflect valid clinical constructs, and in particular the validity and reliability of personality disorder classification, has been called into question (Blackburn, 2006; Huprich & Bornstein, 2007; Klonsky, 2000). Specifically, the high levels of co-morbidity both within Axis II and across Axis I and II undermine the discriminate validity of individual personality diagnosis (Bornstein, 1998; Ekselius *et al.*, 1994a; Tyrer *et al.*, 1991), while the construct validity of current categorical diagnostic systems has been questioned due to its limited overlap with dimensional approaches adopted in conceptualising normal personality (Huprich & Bornstein, 2007; Livesley, 2006; Mullins-Sweatt & Widiger, 2009; Widiger & Lowe, 2007).

Challenges to the validity and reliability of the BPD diagnosis have focused on the potential heterogeneity of BPD: the diagnostic threshold for BPD (five of the nine diagnostic criteria) allows 151 different combinations of the diagnostic criteria to equate to a diagnosis of BPD. Factor analysis of the presenting traits of individuals diagnosed with BPD has indicated that the diagnosis may reflect two, three or four factors as opposed to a single uni-dimensional construct (Clarkin *et al.*, 1993; Rosenberg and Miller, 1989; Sanislow *et al.*, 2000, 2002; Whewell *et al.*, 2000), raising the possibility of different sub-types of BPD. In common with other PDs, BPD also demonstrates high co-occurrence with other Axis I and Axis II

disorders (Deltito *et al.*, 2001; McGlashan *et al.*, 2000; New *et al.*, 2008; Tyrer, 1999; Yen & Shea, 2001; Ball & Links, 2009).

Notwithstanding these criticisms, BPD diagnosis continues to demonstrate clinical validity and utility in terms of common aetiology, functional impairment and treatment pathways (NICE, 2009). Compared to other Axis-II PDs, the conceptualisation and diagnostic criteria for BPD have a relatively strong theoretical and empirical basis (Gunderson & Singer, 1975; Kernberg, 1967; Knight, 1953; Spitzer *et al.*, 1979; Stern, 1938), and there is a more extensive evidence base for its validity and clinical utility (Skodol, Gunderson, Pfohl *et al.*, 2002; Skodol, Gunderson, McGlashan *et al.*, 2002). Subsequent to classification in DSM-III, the validity and reliability of BPD diagnosis has continued to be critiqued and BPD is probably now the most widely researched PD. Similarly, aetiological, dimensional, genetic and biological studies of BPD provide tentative support for the theoretical validity of classification (Coolidge *et al.*, 2001; Siever *et al.*, 2002; Torgensen, 2000; Trull *et al.*, 2003).

This extensive literature base, relative to the diagnosis of BPD and its clinical validity, provides a strong framework for interpreting empirical findings and considering their clinical implications, and therefore, in developing this research question, the clinical and research utility of the BPD diagnosis was considered to outweigh its inherent limitations.

Prevalence, Morbidity and Functional Impairment

BPD is estimated to occur in 1% of the general population (Coid *et al.*, 2006; Samuels *et al.*, 2002; Torgensen *et al.*, 2001), 4%-6% of primary care patients (Gross *et al.*, 2002; Moran *et al.*, 2000) and 10-25% of psychiatric outpatients (Widiger & Weissman, 1991; Zimmerman *et al.*, 2005). Within clinical settings, BPD is significantly more prevalent in females than males (Skodol & Bender, 2003).

BPD is a debilitating disorder; individuals with BPD have been found to present with serious and long term functional impairments comparable to those found in schizophrenia (Gunderson *et al.*, 1975; Skodol *et al.*, 2002). It is rarely encountered as a 'pure' diagnosis (Fyer *et al.*, 1988; Pfohl *et al.*, 1986) and frequently presents with co-morbid Axis I disorders (New *et al.*, 2008; Skodol, Gunderson, Pfohl *et al.*, 2002), particularly substance and alcohol abuse, post traumatic distress disorder (PTSD), depression, anxiety, bipolar disorder and eating disorders. BPD may also present with other Axis II disorders, particularly antisocial, paranoid and dependent PD (McGlashan *et al.*, 2000). Perhaps most significantly, BPD is associated with high levels of self-harm and suicidal behaviour: 70% of individuals with

BPD engage in acts of self-harm and 10% will complete suicide (Gerson & Stanley, 2002; Paris, 2002).

The literature on BPD indicates that women with BPD may present with higher levels of morbidity and functional impairment than their male counterparts. For both genders, morbidity and disability tend to be highest in individuals in their late teens and twenties (Grant *et al.*, 2008), a time that for women may coincide with the core child bearing years, potentially compromising their abilities to meet the needs of a child.

1.1.3 Aetiology and Family Aggregation of BPD

A complex and multifactorial aetiology is implicated in the development of BPD. Aetiological studies of BPD, originally drawing on the retrospective accounts of individuals with BPD, but supplemented more recently by prospective, longitudinal studies, have begun to provide a clearer picture of the pertinent factors in the development of borderline pathology. However, despite this developing evidence base, the aetiology of BPD remains uncertain and no theory currently provides a comprehensive framework integrating all known aetiological factors. All theories, however, emphasis the key role that environmental factors play in the aetiology of BPD. In particular, experiences of childhood trauma and neglect, including childhood sexual abuse (Fossati *et al.*, 1999), a toxic and/or invalidating family environment (Linehan, 1993) and a history of disorganised or ambivalent attachment (Agrawal *et al.*, 2004) are considered to be critical to the aetiology of BPD.

Despite the core role of environmental factors in the aetiology, the morbid risk of BPD in first degree relatives of a borderline individual has been estimated to be as high as 15.3% (Links *et al.*, 1988), suggesting the potential role of genetics in the family transmission of BPD. Family aggregation studies indicate a significantly increased risk not only of BPD, but also of antisocial PD, Cluster B PDs, substance and alcohol abuse, and major depressive disorder in the first degree relatives of borderline individuals (Silverman *et al.*, 1991; Zanarini *et al.*, 2004; White *et al.*, 2003). However, in these family studies, it is difficult to disentangle the hereditary factors from the environmental factors associated with the mental health of first degree relatives. Research examining PDs in monozygotic and dyzygotic twins provides evidence of significant heritability of BPD with estimates for the heritability factor ranging from 0.35 to 0.75 (Coolidge *et al.*, 2001; Torgensen, 2000; Torgensen *et al.*, 2008). It is proposed that genetic influences reflect two underlying temperament or personality traits, impulsive aggression and emotional dysregulation, rather than the direct heritability of BPD per se (Posner *et al.*, 2003; Silverman *et al.*, 1991; Skodol, Siever *et al.*, 2002; Zanarini *et*

al., 2004). In their review of genetic studies of BPD, Posner *et al.* (2003) concluded that, while there is evidence of genetically mediated traits in the aetiology of BPD, there is 'currently no strong evidence that BPD is heritable'.

Given the high risk of BPD in first degree relatives of borderline individuals, these findings raise the question of whether there is an increased risk of exposure to aetiological environmental factors in the context of borderline parents. Developing a better understanding of the environmental factors linked to borderline parents may, therefore, be critical to gaining a fuller understanding of the aetiology of BPD and the potential environmental risk posed by parents with BPD.

1.2.1 Core Interpersonal Difficulties in BPD

The DSM-IV defines BPD as 'a pervasive pattern of instability of interpersonal relationships, self-image, and affects and marked impulsivity'. Similarly, the diagnostic criteria for BPD identifies 'a pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation' and 'frantic efforts to avoid real or imagined abandonment' as two of the nine diagnostic criteria for BPD, five of which must be met for a diagnosis of BPD. In discriminating BPD from other mental health disorders, interpersonal criteria have been found to be the strongest discriminators of BPD (Gunderson, 2007).

From a cognitive perspective, individuals with BPD often struggle with dramatically shifting views of others with whom they are intensely involved, one moment idealising others as a source of dependable care, and another moment devaluing others in the context of perceived rejection, criticism and/or neglect. Disturbances in borderline individuals' sense of self may also lead them either to over-identify with others in an attempt to gain a stable sense of identity or to feel overwhelmed and engulfed by intimate relationships with an other. In their interactions with others, individuals with BPD often oscillate from being over-involved/ dependent, to seeking to distance the self from others/rejecting others, to becoming demanding of/manipulating others (Bender & Skodol, 2007). The close parallels between the interpersonal difficulties in BPD and the early experiences of disturbed trauma, attachment and neglect have led a number of writers to theorise that self-other disturbances and disturbed interpersonal relationships lie at the core of BPD (Agrawal *et al.*, 2004; Bender & Skodol, 2007; Clarkin *et al.*, 2007; Fonagy *et al.*, 2003 ; Lyons-Ruth *et al.*, 2005; Ryle, 1997).

1.2.2 Parent-Child Relationship and Parents with BPD

Despite the significant interpersonal difficulties experienced by individuals with BPD, and the high levels of family aggregation of BPD with other significant mental health difficulties, including BPD, the relationship between parents with BPD and their children has until recently been largely neglected (Macfie, 2009; Weiss *et al.*, 1996). The unique requirements of parenting may make this relationship particularly vulnerable to the interpersonal difficulties associated with BPD. In infancy and early childhood, parenting requires individuals to manage intimate relationships, to recognise and contain the emotional responses of an infant, to process and make sense of infant communication, to cope with stresses and demands placed on the self by a dependent other, to display the capacity to control impulses and delay gratification of one's own needs and to promote attachment security and appropriate child development. As the child develops, the parental role requires individuals to provide consistent and clear limits and boundaries, to provide unconditional acceptance and regard, to tolerate anger in response to challenging behaviour, to promote appropriate autonomy and individuation and to cooperate and communicate effectively with professionals in the child's life (Reder & Lucey, 1995).

The relatively limited extent of the literature on parental BPD is particularly striking given firstly, the extensive literature that has accumulated in relation to other parental mental health difficulties, such as depression, anxiety, schizophrenia and solvent abuse (Puckering, 2004; Seeman, 2004; Velleman, 2004); and secondly, the evidence of a significant relationship between parental PD and both childhood mental health difficulties and parental neglect and abuse (Dinwiddie & Bucholz, 1993; Famularo *et al.*, 1992; Rutter & Quinton, 1984).

In 1984, Rutter & Quinton conducted a comprehensive study of the relationship between parental psychiatric disorder and childhood mental health. Parents with PD presented with the most persistent mental health problems and greatest levels of marital conflict. The children of these parents were reported to be at the greatest psychiatric risk of persistent emotional and behavioural disturbance. Unlike in families with Axis 1 parental mental health problems, the psychiatric risk to children of parents with PD continued to be significant in the context of families with one healthy parent. Despite the significant independent relationship between PD and childhood mental health, research exploring the impact of parental mental health disorders on parenting or child outcomes have rarely controlled for the co-morbidity of depression and personality disorders (Abela *et al.*, 2005; Conroy *et al.*, 2010). Where studies have controlled for parental PD, the impact of parental mental health is

significantly reduced (Abela *et al.*, 2005; Conroy *et al.*, 2010; Hans *et al.*, 1999; Howard *et al.*, 2003), raising the question of whether the impact of Axis 1 parental mental health problems on parenting and child outcomes may, at times, have been partially mediated by the presence of co-morbid PD in these studies.

Parental personality disorder also appears to be linked to problematic child-rearing behaviour. Studies exploring the pathology of parents involved in incidents of child abuse or neglect indicate that parental PD, particularly anti-social PD and BPD, are much more prevalent in subjects of the child protection service than in community samples (Bools *et al.*, 1994; Dinwiddie & Bucholz, 1993; Famularo *et al.*, 1992; Howard *et al.*, 2003; Laporte, 2007). The potential relationship between parental PD and risk of childhood mental health difficulties, neglect and/or abuse, is highlighted in the Royal Society of Psychiatrists (RSP) papers on 'Patients as Parents' and 'Child Abuse and Neglect' (RSP, 2002, 2004).

While research studies have linked parental PD to childhood mental health and problematic parenting behaviour, few studies have explicitly focused on parental PD. A literature search was conducted using the search databases, Ovid, Psych Info, Embase and EBM reviews, to identify potentially relevant papers published in the English language between 1992 to October 2010 with the search terms (mother$ or father$ or parent$ or maternal or paternal or famil$) and (antisocial or narcissis$ or histrionic or borderline or emotionally-unstable or dissocial or cluster B or dissociat$ or self-harm or suicid$ or personality or personality disorder). Citations in relevant papers were also reviewed. Twelve empirical studies focusing on parents with a BPD or borderline presentation were identified (Table 1, Appendix 3). The preliminary findings and limitations of these studies are reviewed in more details below.

1.2.3 Literature Review of Parents with BPD

1.2.3.1 Children of Parents with Borderline Personality Disorder

As outlined earlier, family aggregation studies indicate that first degree relatives of individuals with BPD are significantly more at risk of impulsive spectrum disorder and depression. However, such studies have not explicitly explored the mental health presentation of the offspring of borderline parents (Johnson *et al.*, 1995; White *et al.*, 2003). Five empirical studies have explored the relationship between borderline parents and their children's psychological presentation, four in relation to borderline mothers and one in relation to borderline parents.

Temperament and Psychopathology in Children of Borderline Parents

Three of the five studies focused specifically on the mental health of children of borderline parents. Weiss *et al.* (1996) explored the psychopathology of twenty-one children between 4 and 18 years of age of nine mothers with a current or historic diagnosis of BPD, in comparison with twenty-three children of mothers with other Axis II PDs. Children of borderline mothers presented with more psychiatric diagnoses and greater levels of functional impairment (as assessed on the Child Global Assessment Schedule). More specifically, consistent with the finding of greater levels of impulsive spectrum disorders in first degree relatives of individuals with BPD, index children presented with significantly more childhood BPD, attention deficit hyperactivity disorders and disruptive behaviour disorders. Maternal borderline diagnosis continued to explain 20% of the variance in childhood functional impairment and 8% of the variance in childhood BPD, even after controlling for childhood experiences of family trauma. Weiss *et al.* concluded that the results may indicate 'shared biological vulnerabilities' or may reflect the impact of maternal or family factors related to mothers with BPD.

The relationship between parental BPD and vulnerability to depression in children (6-14 years old) was explored by Abela *et al.* (2005) in a community based sample of parents with a history of major depressive disorder ("MDD"). Current and historic depressive episodes and interpersonal and cognitive vulnerability to depression were explored in twenty children of fifteen parents with BPD and MDD, and one hundred and twenty children of eighty-seven parents with MDD in the absence of any personality pathology. Children of borderline parents presented with higher levels of current depressive symptoms and were 6.8 times more likely to have a history of MDD. Borderline offspring's vulnerability to depression was also apparent in the comparison between index and control children on interpersonal and cognitive measures linked to depression. Index children presented with comparatively elevated scores on measures of negative attributional style, reassurance seeking, ruminative response and dysfunctional attitudes. This relationship remained significant even after controlling for parental depression.

Barnow *et al.*'s (2006) community based study exploring the psychopathology of children between 11 and 16 years in a community sample provides further support for the increased vulnerability of children of borderline mothers to internalising mental health problems, such as depression, anxiety or psychosomatic symptoms, and externalising mental health problems, such as disruptive behaviour disorders. In this study, self and maternal reported symptoms of children's emotional and behavioural difficulties were explored in 23 children

of 16 mothers with borderline symptoms. Compared to children born to mothers with Cluster C PDs (31), depressive disorders (47) or no history of mental health problems (294), the twenty-three children of the borderline mothers presented with significantly elevated scores in relation to depression, anxiety, physical complaints and emotional problems. Significantly higher levels of attention deficits, delinquency, aggression and suicidal tendencies were also apparent in comparison with children of parents with no history of mental health problems. In common with the findings of genetic studies of BPD, Barnow *et al.* (2008) found higher levels of harm avoidance in children of parents with BPD in comparison with children of depressed parents or parents with no mental health difficulties. Barnow *et al.* (2008) concluded that the findings 'support the concept of a multifactorial aetiology to BPD, whereby children of mothers with BPD exhibit specific temperament characteristics and familial environments, which may influence a higher risk of parental BPD being transmitted to the children'.

While the limited sample size across the three studies reduces the ability to generalise from these studies to parents with BPD, they provide preliminary evidence of the significant vulnerability of children of borderline parents to 'difficult' temperaments and mental health difficulties.

Child: Representation of Self and Others

Three of the five studies exploring the relationship between parental BPD and the child's presentation considered the way parental BPD may relate to the child's representation of the self and others.

In Macfie & Swan's (2009) study, four to seven year old children's representations of the self, the caregiver-child relationship and emotion regulation were explored in a narrative story-stem completion task. Thirty children of thirty borderline mothers and thirty children of thirty mothers without a diagnosis of BPD were recruited via the health service, community and specialist programmes for children. Comparison between index and control children controlled for the potential role of the covariant, maternal major depression disorder. The children of borderline mothers were found to display more maladaptive caregiver-child relationship representations, characterised by role-reversal, fear of abandonment, negative mother-child and father-child relationships. Similarly, in the representation of the self, children of BPD mothers displayed greater incongruence and shame. Observations of these children's behaviour during the narrative story-stem completion task indicated difficulties with emotional regulation, with the children displaying blurring of reality and fantasy, diversions from issues in the story to fantasy, less coherence and more intrusive themes in the stories. Further analysis indicated that maladaptive representations of the self, the caregiver-child relationship and impairments in emotional regulation were each significantly associated with maternal borderline features including identity disturbance, negative relationships, and self-harm. Macfie & Swan (2009) suggest these early childhood mental representations of the self and others may act as precursors to the development of later psychopathology in the children of borderline mothers, concluding that 'maladaptive representations and poor emotion regulation may increase a child's own likelihood of developing BPD in early adulthood'.

Further evidence for the development of maladaptive representations of the self in children of borderline mothers with BPD is provided by the Barnow *et al.* (2006) study detailed earlier. The eleven to eighteen year old children of borderline mothers in this study presented with significantly lower self-esteem than children of parents with Cluster C PDs, depression or parents with no history of mental health difficulties. Similarly, in Herr *et al.*'s (2008) community-based study of the fifteen year old children of 189 mothers with a history of depressive disorders and 461 mothers with no history of mental health problems, negative youth self-perception in relation to close friendships and social life was significantly related to maternal borderline symptoms as assessed on the screening questionnaire for DSM-IV

diagnosis for Axis II disorders. In Herr *et al.* (2008) maternal borderline symptoms were also associated with youth perceptions of maternal hostility, which may reflect maladaptive representations of the caregiver-child relationship in the children of borderline parents. These findings remained significant after controlling for youth and maternal current and past depressive symptoms.

1.2.3.2 Parental Behaviour, Parental Beliefs & Family Environment

Four of the twelve empirical studies considered the wider family environment and parenting behaviour outside of the attachment relationship; all studies focused on maternal BPD.

Feldman *et al.* (1995) explored the family environment, family satisfaction and family trauma in the families of nine mothers with BPD and the families of fourteen mothers with other Cluster A and C PDs, including histrionic, dependent and avoidant PDs. Children in both groups had experienced high levels of trauma within the family context including high levels of sexual abuse by a perpetrator outside of the family. Fathers across both groups were frequently absent, and when present did not appear protective, with high levels of abuse, drugs/alcohol and disruptive behaviour. Despite the extreme instability and trauma in both groups, the children of borderline mothers presented with greater family instability, including more frequent changes in household, increased exposure to drug/alcohol abusing parent(s), increased exposure to paternal and maternal suicidal behaviour, including witnessing suicide attempts, increased exposure to paternal verbal abuse and more frequent placement of children away from their mothers (eight children were currently living away from their mothers at the time of the study). Contrary to the study's expectations, children of mothers with BPD were significantly less likely to experience physical abuse from their mothers than children of parents with other PDs.

High levels of family conflict and low personal growth were found in both groups. According to maternal ratings, borderline families were significantly less cohesive and organised than families with other PDs. No significant differences in family satisfaction or child rated family environment were found.

In Barnow *et al.* (2006), adolescents of borderline parents perceived their mothers to be more over-protective than adolescents of depressed parents, Cluster C parents or parents with no history of mental health problems. No differences in relation to perceived maternal warmth or rejection were found.

Newman *et al.* (2007) explored maternal perceptions of parenting efficacy, parenting competence and parental stress in the context of their relationships with infants aged three to thirty-six months. Fourteen mothers with BPD and twenty mothers with no history mental health problems were recruited via infant health services. Borderline mothers perceived themselves to be significantly less satisfied, with lower satisfaction during, and greater disappointment after, their interactions with their infants. Parents considered themselves to be less competent and to experience more difficulties in their parental role. Mother with BPD also expressed higher levels of parental stress than parents with no mental health history. Similarly, in Herr *et al.* (2008), maternal borderline symptoms were associated with higher maternal stress in their relationship with their fifteen-year-old children.

1.2.3.3 Attachment and Maternal and Infant Behaviour in Attachment Relationships

As outlined in section 1.1.3, aetiological studies indicate that BPD is associated with unresolved[1], preoccupied[2] and fearful[3] attachment in adulthood and ambivalent[4] and disorganised[5] attachment in childhood. The wider literature on attachment highlights the intergenerational transmission of attachment, where by parents' mental representation of their childhood attachment, apparent in language, strongly influences the attachment status of their infant (van IJzendoorn, 1992). Parents' representations of their own attachment relationships are hypothesised to influence parents' sensitivity and responsiveness to their infants' attachment signals, thereby transmitting attachment status to the next generation. Consistent with this picture, maternal sensitivity has been identified as a critical factor in the

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[1] Unresolved or fearful attachment types are considered to be unresolved in relation to loss or trauma. Classification is indicated by lapses in reasoning or narrative structure or discussion of losses or traumatic experiences on the Adult Attachment Interview (Main & Goldwyn, 1998). This attachment type is hypothesised to reflect a disorganised attachment in infancy/childhood.

[2] Preoccupied adults display intense involvement and mental preoccupation with attachment relationships. On the Adult Attachment Interview (Main & Goldwyn, 1998), these adults display over-elaborate, extensive descriptions of attachment figures and appear preoccupied, with limited ability to reflect and marked passivity, anger or fear, as if reliving the attachment experiences. This attachment type is hypothesised to reflect an ambivalent attachment in childhood.

[3] Fearful avoidant attachment style displays both a desire for closeness as well as a need for space and independence. As in disorganised attachment, there is conflict between a desire for closeness and the threat/ mistrust of others.

[4] Disorganised attachment in childhood is associated with a disorganised attachment pattern where the child displays contradictory and unintegrated attachment behaviours towards the parent, seeking both to approach and avoid the parent. These infants are proposed to view the attachment figure as a source both of protection and threat, leading to a disorganised response to the experience of threat

[5] Ambivalent attachment in childhood is associated with an organised attachment style directed at securing attachment. However, in contrast to a securely attached child, the child displays heightened distress and proximity seeking in response to threat or separation, and is not easily soothed by the attachment figure. These infants are proposed to lack confidence in the availability and responsiveness of the caregiver.

intergenerational transmission of attachment style (De Woolf & Van IJzendoorn, 2007). Despite the emerging evidence of intergenerational transmission of attachment and the strong association of BPD with insecure attachment styles, borderline mothers' responsiveness to their infants and the attachment status of their infants has not been explored until recently.

Eight of the twelve empirical studies considered the quality of the parent-child attachment in families with a parent with BPD. Six of these focused on the attachment between borderline mothers and their infants, with observations of maternal and infant behaviour. The two remaining studies explored attachment from the perspective of children of borderline parents; one of these studies focused specifically on attachment to the mother.

Maternal Behaviour, Infant Behaviour and Mother-Infant Attachment

In Crandell *et al.*, (2003), the 'still-face' paradigm was adopted to explore maternal and infant behaviour in eight borderline mothers and twelve mothers with no history of mental health difficulties. Mothers were recruited via community based ante-natal clinics. All infants were two months old at the time of the study. The 'still-face' paradigm involves three successive periods of interaction: face-to-face free play (pre-play); a phase where the mother adopts a 'still-face' and is unresponsive to the infant; and the resumption of face-to-face free play (post-play). The still-face procedure was developed to explore infants' sensitivity to deviations in expected mother-infant reciprocal interaction. Typically, infants respond by trying to re-engage their mother; when this fails, less smiling is observed, infant affect becomes more neutral or negative and their gaze usually shifts away from the mother's face. Infants' responses to the still-face phase are hypothesised to reflect the degree of maternal sensitivity, maternal control or affect in the interactions preceding it.

Borderline mother were observed to be more intrusive and insensitive in their interactions with the infants in pre- and post- play. During the 'still-face' period, infants displayed more 'looking away' and dazed expressions. In post-play, borderline mother-infant interaction was rated as less satisfying, in terms of mutual degree of engagement, interest, fun and ease, and their infants continued to display more dazed expressions and lower affect in this period. However, contrary to predictions, no differences in the maternal affect or positive engagement with the infant were observed. The authors conclude that borderline mothers' more insensitively intrusive behaviour in the pre-play period may underlie the more disturbed responses of their infants to disruptions in the mother-infant interaction. The dazed expressions observed by infants in this group were considered potentially to reflect early

signs of difficulties with self-regulation, similar to the 'freezing observed in disorganised infant attachment'.

Similar patterns of maternal behaviour emerged in Apter-Danon's (2005) 'still-face' study with eighteen mothers with BPD and eighteen mothers with no Axis II disorder. Borderline mothers were observed to be more intrusive in pre- and post-play. Maternal behaviour was observed also to be qualitatively different, with more 'poking' and 'jabbing' and less diversity in the maternal behaviour repertoire. Comparisons between the pre- and post-play phases indicated that borderline mothers tended to show less adjustment in their interactions with the infant following the 'still-face' phase. In the post-play phase, borderline mothers continued to display the same intensity of interaction with the infant, whereas control parents were noted to reduce the intensity of their interactions with the infant and to offer the infant more space to initiate play at his/her own pace. During the pre-play, still-face and post-play phases, infants of borderline mothers were observed to show more behaviours of the autonomic nervous system, such as hiccuping or spitting up, suggestive of greater 'emotionally dysregulation'.

Further evidence of the potential difficulties that borderline mothers may experience in sensitively attuning to their three month old infants' needs is provided by Delvenne *et al.*'s (2008) study of seventeen mothers with BPD and seventeen mothers with no history of mental health problems, recruited from a clinical population and maternity wards respectively. Delvenne *et al.* (2008) considered maternal-infant reciprocity in terms of the temporal organisation of early vocal interactions. Micro-analysis of parent-infant interactions has demonstrated that infants are, from birth, inherently motivated to initiate and respond to vocal interactions in a 'musical' way, reflecting the natural rhythms of engagement and disengagement, or 'activity' and 'listening', found in the turn-taking of human interaction (Stern, 1974, as cited in Delvenne *et al.*, 2008). The temporal coordination of parent-infant vocalisations has been found to correlate to attachment security and maternal sensitivity (Hane, Feldstein, & Denertz, 2003; Jaffe *et al.*, 2001, as cited in Delvenne *et al.*, 2008). Micro-analysis of the audio-recordings of borderline mother-infant dyads indicated that index mothers' vocalisations were less contingent on their infants', and 'appeared more incoherent and fragmented', with much longer pauses and included non-vocal sounds, such as throaty rasps or clicking. The authors suggest that for the infants such pauses may be perceived as 'moments of solitude' and these longer pauses and non-vocal sounds may lead to a 'fragmented and incoherent temporal experience for the infant'. Infants of borderline mothers were also found to vocalise less than infants of parents with no history of mental health difficulties.

The quality of borderline mothers' sensitivity to their infants was also explored in Newman *et al.*'s (2007) study of borderline mothers and their three to thirty-six month old infants, where maternal responsiveness and affective attunement to the child were assessed during a ten minute free-play. Consistent with the previously reviewed studies, mothers with BPD were rated as significantly less sensitive and were observed to be more inconsistent in structuring interaction with the child. As in Delvenne *et al.* (2008), infants of borderline mothers in this study were less responsive and displayed less engaging behaviours than the infants of parents with no history of mental health difficulties.

Contrary to expectation, no significant differences emerged in relation to maternal hostility or covert hostility. Newman *et al.* conclude that mothers with BPD may be less prone to be 'frightening' or hostile towards their infants and may, instead, be 'frightened of' the attachment behaviour of their infant. In support of this supposition, most mothers in this sample were observed to 'appear "frightened of" and withdrawn from their children'.

Hobson *et al.* (2005) explicitly explored the quality of parent-infant attachment in borderline mother-infant dyads. The attachment status of the twelve month old infants of ten mothers with BPD and twenty-two mothers with no history of Axis 1 disorders was explored using the Strange Situation Paradigm. In the Strange Situation, attachment status is assessed based on the infant's reactions to separations from and reunions with their mothers. Eight of the ten infants of borderline mothers in this study were considered to present with 'disorganised' attachment, that is their behaviour included 'contradictory attachment behaviour patterns such as very strong attachment followed by avoidance, misdirected movements and expressions, anomalous postures, freezing and stilling, fearful expressions, and manifestations of disorientation such as confused or dazed expressions or multiple, rapid changes in affect'. Observations of borderline mothers' infants in a stranger interaction situation and in structured play with their mothers replicated the findings of the earlier detailed studies; mothers were rated as more 'intrusively insensitive' and infants were rated as less available for positive engagement and were found to display less behaviour organisation and positive mood state in the context of the stranger.

Hobson *et al.* (2009) re-explored the recordings from the Strange Situation interactions detailed above to assess the quality of maternal behaviour during this procedure. To increase the sample size, three further recordings of Strange Situations, including mothers with BPD and their eighteen month old infants, were included from an earlier study (Lyons *et al.*, 1990). The control groups consisted of twenty-two parents with no history of mental health

difficulties from Hobson *et al.* (2005), nine parents with no history of mental health difficulties from Lyons *et al.* (1990) and twenty-five mothers with depression and or anxiety, again from Lyons *et al.* (1990). Borderline mothers were found to display more disrupted affective communication with their infants. According to the Atypical Maternal Behaviour Instrument for Assessment and Classification ("AMBIANCE") (Lyons-Ruth *et al.*, 1999, as cited in Hobson *et al.*, 2009), disruptive affective communication includes affective communication errors, role confusion, frightened/disoriented behaviour, negative intrusive behaviour and withdrawing behaviour. In particular, BPD mothers were distinguished from mothers in the control group by the high prevalence of 'helpless/frightened/disoriented' behaviour, i.e. fearful, hesitant or deferential behaviour towards the infants' attachment behaviour expressed in disoriented behaviour, including 'freezing, frenetic or uncoordinated overtures toward the infant, or sudden or unusual shifts in voice tone' (Hobson *et al.*, 2009). This style of relating to the infant has been particularly associated with mothers with unresolved trauma and is understood to increase the likelihood of disorganised infant attachments (Main *et al.*, 1990, as cited in Hobson *et al.*, 2009).

Child-Rated Attachment Status and Youth Perceptions of Maternal Behaviour

The attachment status of children of borderline parents has also been explored on child-rated measures of attachment. In Abela *et al.* (2005), the six to fourteen year old children of mothers with BPD presented with more insecure attachment styles than children of mothers with a history of major depressive disorder. Consistent with the picture provided by mother-infant attachment studies, Herr *et al.* (2008) found maternal borderline symptoms were correlated with more fearful attachment cognitions in their fifteen year old children. In this study, maternal borderline symptoms were also correlated youth perceptions of maternal hostility.

1.2.4 Limitations of Current Literature

The generalisability and clinical implications of the aforementioned studies may be limited by a number of methodological weaknesses.

Failure to Control for Potentially Relevant Covariants

Genetic studies indicate the potential hereditary nature of impulsive aggression and harm avoidance traits in the aetiology of BPD (Posner *et al.*, 2003; Silverman *et al.*, 1991; Skodol, Siever *et al.*, 2002; Zanarini *et al.*, 2004). The failure to control for these temperamental traits in the offspring of mothers with BPD may limit the degree to which findings relating to

maternal and infant behaviour, attachment and childhood mental health may be attributed to factors within the parent or environment, as opposed to the particular vulnerability of the child. Only one of the twelve empirical studies included a measure of temperament (Barnow *et al.*, 2006) and no studies controlled for temperament. The majority of the parent-infant studies also failed to control for perinatal risk factors, such as exposure to solvent abuse during pregnancy, premature birth or postnatal intensive care input (Apter-Danon *et al.*, 2005; Crandell *et al.*, 2003; Hobson *et al.*, 2005, 2009; Newman *et al.*, 2007). Given the high co-morbidity of BPD with substance abuse disorders, it is possible that infants of mothers with BPD may be more vulnerable to these perinatal risk factors, which may in turn impact on the way these infants interact and respond to their mothers, influencing maternal behaviour and attachment (Beeghly *et al.*, 2002; Eiden *et al.*, 2009).

While a number of studies attempted to control for the role of co-morbid Axis I disorders by selecting a control group of parents with Axis 1 disorders, including depression, only two of the studies specifically controlled for current levels of depression (Abela *et al.*, 2005; Herr *et al.*, 2008). Parental depression is associated with increased psychiatric risk in the offspring (Puckering, 2004), insensitive maternal behaviour (Field, 1984), decreased infant responsiveness (Field *et al.*, 1988) and insecure attachment (Lyons-Ruth *et al.*, 1990). Given the high co-morbidity of BPD and depression, the failure to control for current levels of depression, particularly in the infant-mother studies, means that it is difficult truly to attribute difference in infant behaviour, maternal behaviour, attachment, family trauma and environment, or child mental health to the BPD diagnosis of parents. However, it would appear that the patterns of maternal 'intrusive insensitivity', long pauses in reciprocal vocal interaction, dazed infant expressions and frightened/disorientated maternal behaviour may be specific to BPD; this particular presentation of maternal or infant behaviour did not emerge in similar studies of mothers with depression (Crandell *et al.*, 2003; Delavenne *et al.*, 2008; Hobson *et al.*, 2009; Puckering *et al.*, 2004).

Feldman *et al.*'s (1995) study suggested that maternal BPD may often co-occur with significant paternal pathology, including paternal suicidal behaviour, paternal substance abuse and paternal verbal abuse. It would therefore appear that paternal psychopathology may be an important co-variant with maternal BPD. However, only one of the twelve studies sought to control for the potentially mediating impact of paternal mental health on childhood mental health problems (Weiss *et al.*, 1996). It is therefore possible that a proportion of the variance found in infant attachment status, infant behaviour, childhood interpersonal difficulties and childhood representations of the self and others may relate to paternal

psychopathology and wider family traumas related to this presentation, rather than maternal BPD per se.

Failure to Conduct a priori Power Analysis: Possibility of Type II Error

The absence of a priori or post hoc power analysis to ascertain the size of sample that would be required to reject the null hypothesis is of particular concern given the small sample sizes adopted in these studies (8-30 parents with BPD). Insufficient power may increase the risk of Type 1I errors, that is the acceptance of a null hypothesis when it is in fact false, i.e. the failure to detect the presence of a true/real effect (Baguley, 2004; Cooligan, 1999). The finding of significant effects in respect of the children, attachment relationships and behaviour of parents with BPD appears to negate this short-coming, although it should be noted that a number of insignificant findings were also found in these studies.

Limited Generalisability to Clinical BPD Population

The small sample sizes in these studies may limit the ability to generalise from these findings to the wider BPD population. The generalisability and validity may be further limited by steps taken to increase the index sample size in a number of studies. For example, studies exploring family or child outcome factors often adopted the child as a unit of analysis rather than the family to provide a larger index sample. As a number of families had more than one child, including families of up to six children, this approach means the index data are not truly independent and the findings may reflect disproportionately the impact of one particular parent's mental health difficulties on their children, thereby limiting the generalisability of these findings to the wider population and questioning the validity of the findings.

Other studies increased power by including participants in the index group with below threshold diagnostic levels for BPD (Barnow *et al.*, 2006) or by adopting a correlational approach based on borderline symptoms (Herr *et al.*, 2008). The failure to adopt diagnostic cut-offs for BPD in these studies may limit the generalisability of these studies to the wider clinical population.

Finally, in four of the twelve studies, the empirical findings were based on analysis of the same two groups of BPD and control mothers, further inflating the influence of individual borderline mothers in the findings: Feldman *et al.* (1995); Weiss *et al.* (1996); Hobson *et al.* (2005, 2009).

The Application of Multiple Statistical Tests: Possibility of Type I Errors

The possibility of Type I errors, that is the rejection of a true null hypothesis or the identification of a 'significant' effect that does not actually exist, should also be considered in these studies. In statistical analysis, the null hypothesis, that is the hypothesis that an effect occurs at chance level only, is generally rejected when the probability of this being true drops below 0.05, i.e. 1 in 20. The application of multiple statistical tests increases the probability that one of the tests will prove 'significant': if you apply 20 tests of significance to random data, there is a high probability that you will get one 'significant' result. To adjust for this a Bonferroni correction may be applied to reduce the risk of a Type I error. For example, by setting the significance level to a lower level. The presence of multiple statistical tests in the absence of these steps in the above studies may increase the possibility that the significant findings in these studies do not reflect true differences (Cooligan, 1999). The consistent relationship between parental BPD and factors that increase 'psychiatric' risk to children across all significant findings would appear to be suggestive of a 'true' phenomenon. However, the one-tailed or uni-directional nature of many of the statistical tests adopted in the studies precludes the possibility of identifying findings that contradict this relationship.

1.2.5 Summary of Current Literature

The literature points clearly to increased psychiatric risk in the offspring of borderline parents. Consistent with family aggregation studies, maternal BPD was associated with increased psychiatric risk of impulsive disorders, such as attention deficit hyperactivity disorder ("ADHD"), disruptive behaviour disorders and childhood BPD, and affective disorders, such as depression and emotional disturbance, in the children of parents with BPD (Abela *et al.*, 2005; Barnow *et al.*, 2006).

Empirical studies also offer a preliminary understanding of the potential pathways between parental BPD and increased psychiatric risk to their children, both in terms of the factors underlying the relationship between parental BPD and the vulnerability of their children to childhood mental health difficulties, and in terms of the potential early precursors to the development of mental health difficulties in the child. In terms of the latter pathway, evidence from child, youth and infant studies link parental BPD to disorganised attachment style (Apter-Danon *et al.*, 2005; Crandell *et al.*, 2003; Hobson *et al.*, 2005, 2009; Herr *et al.*, 2008), maladaptive caregiver-child representations (Barnow *et al.*, 2006; Herr *et al.*, 2008; Macfie &Swan *et al.*, 2009), maladaptive self- representations (Barnow *et al.*, 2006; Herr *et al.*, 2008; Macfie & Swan *et al.*, 2009), emotional regulation difficulties (Crandell *et al.*,

2003; Apton-Danon *et al.*, 2005; Macfie & Swan *et al.*, 2009), harm avoidance temperament traits (Barnow *et al.*, 2006) and dysfunctional interpersonal relatedness (Abela *et al.*, 2005; Delavenne *et al.*, 2008; Hobson *et al.*, 2005) in their children. Children of parents with BPD were also found to present with more negative attributional style, greater ruminative response, more dysfunctional attitudes and excessive reassurance seeking (Abela *et al.*, 2005).

In considering the potential factors underlying the risk posed by parental BPD, infant studies indicate that borderline mothers may be more intrusively insensitive (Apter-Danon *et al.*, 2005; Crandell *et al.*, 2003; Delevenne *et al.*, 2008; Newman *et al.*, 2007), may display more frightened/disorienting behaviour (Hobson *et al.*, 2009), and offer less diverse, satisfying and structured/organised interactions with their infants. The literature also highlights the potential mediating role of low parenting efficacy, maternal stress (Herr *et al.*, 2008; Newman *et al.*, 2007) and potentially problematic child-rearing behaviours (Barnow *et al.*, 2006; Feldman *et al.*, 1995; Herr *et al.*, 2008), including possibly abuse and/or neglect (Bools *et al.*, 1994; Dinwiddie & Bucholz, 1993; Famularo *et al.*, 1992; Howard *et al.*, 2003; Laporte, 2007). The parallels between these mediating factors and the aetiological factors implicated in the development of BPD, suggest that these studies may also help to provide an understanding of the high risk of BPD in first degree relatives.

However, given the methodological weaknesses of the above studies and the relatively small numbers of studies conducted to date, it is clear that further research is required to gain a clearer picture of the particular vulnerabilities of parents with BPD and their children. In particular, none of the empirical studies have considered the way borderline individuals' characteristic 'pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation' may impact on their representation of the child and their perceptions of children's behaviour, or the role this may play in influencing their behaviour as parents. The potential link between parental BPD and parental abuse/neglect, anomalous parenting behaviour, including frightened/disoriented behaviour and intrusive, insensitive behaviour, suggests that the factors underlying parental behaviour may provide a clearer picture of the mediating factors in BPD. This may be particularly important given the role such parental behaviour may play in the aetiology of BPD and the transmission of BPD to subsequent generations.

While no studies have specifically considered the way the child may be perceived and represented by borderline parents, insight into the internal representation of others that characterise BPD may be offered by cognitive and analytic models of BPD.

1.3.1 Conceptualisation of the Other in BPD: Cognitive-Behaviour Models

There are three distinct cognitive-behaviour conceptualisations of BPD: Beck's cognitive model of BPD (Beck *et al.*, 2004; Pretzer, 1990); Young's schema mode model (Young *et al.*, 2003); and Linehan's (1993) dialectical behaviour view.

According to Beck's cognitive model, BPD is characterised by three core assumptions: 'the world is dangerous and malevolent', 'I am powerless and vulnerable' (others are strong and capable); and 'I am inherently unacceptable' (Pretzer, 1990). The characteristic interpersonal approach-avoid oscillations in BPD are proposed to stem from the conflict inherent in the latter two beliefs, where others are viewed both as a potential source of strength and protection and as a source of threat. BPD is further postulated to reflect a polarised, dichotomous thinking style where the opposing beliefs remain unintegrated (Beck *et al.*, 1990). While, this model provides a basis for understanding the characteristic interpersonal style of BPD where individuals may display 'extremes of idealisation (others as a source of strength) and devaluation (others as a source of threat)', it fails to offer a comprehensive framework for understanding the fluctuations between these states and the relative inaccessibility of each of these core beliefs when the alternate belief is dominant.

Young's schema model of BPD attempts to bridge this gap by conceptualising the way these core beliefs may be dominant in certain 'modes' or unintegrated aspects of the self. Young's schema model of BPD views BPD pathology as stemming from early experiences of a family environment that is unsafe and unstable, depriving, harshly punitive rejecting and/or subjugating (Young *et al.*, 2003). In traditional cognitive models, schemas are viewed as internal cognitive structures, relating to an individual's beliefs and assumptions, which define the perception, interpretation and responses to events (Beck *et al.*, 1990). In Young's schema therapy, the concept of schema is extended to incorporate physical sensation, affective components, images and memories, as well as cognitive components (Young *et al.*, 2003). Young further proposes the concept of schema modes which are hypothesised to represent an organised pattern of thinking, feeling and behaving based on a cluster of schema that act relatively independent of other modes. In BPD, these modes are proposed to describe the intense, fluctuating emotional states, or aspects of the self, presented by borderline individuals (Kellogg & Young, 2006). It is postulated that BPD is characterised by four maladaptive schema modes: abandoned and abused child; angry and impulsive child; the detached protector; and the punitive parent (Arntz *et al.*, 2005; Young *et al.*, 2003).

In the abandoned child mode, the self is viewed as vulnerable, victimised and alone. Others are viewed simultaneously as potentially protective and idealised and potentially threatening or abandoning. The angry and impulsive child mode is hypothesised to emerge in response to real or perceived deprivation, mistreatment or abandonment. In this mode, the other is viewed as actively depriving, maltreating and abandoning. In contrast, the detached protector mode is characterised by a 'style of emotional withdrawal, disconnection, isolation, and behavioural avoidance', where the individual is cynically aloof in relation to potentially threatening others. Finally, in the punitive parent mode, the borderline individual is hypothesised to internalise and identify with the abusive and devaluing other in their childhood, adopting this punitive parent as a part of the self that punishes the self for being 'bad' or 'evil'. Young's schema model of BPD, therefore, not only provides a framework for understanding the way individuals with BPD may oscillate between devaluing and idealisating others, but also allows an understanding of why these two views may not be simultaneously accessible. The incorporation of the punitive parent and detached protector modes further offer a basis for making sense of the self-harm and dissociative behaviour found in BPD.

In contrast to the latter two models of BPD, Linehan's (1993) biosocial theory of BPD centres on the emotion regulation difficulties of BPD. The emotion dysfunction that typifies BPD is hypothesised to develop from the interaction of a biologically vulnerable temperament and an 'invalidating environment', where the child's early emotional experiences are trivalised or punished. While this theory places less emphasis on the self-other disturbance in BPD, early experiences of an invalidating environment are hypothesised to lead to a distorted view of the self and others. It is proposed that borderline individuals present with a 'failure to trust in one's own perceptions of reality' which 'prohibits development of a sense of identity or confidence in her own self'. As a result, the self is seen as 'helpless and needy' and others are viewed as 'a necessary source of validation', to define a borderline individual's internal and external reality. This model offers a clearer understanding of the potential role of temperament and emotion regulation difficulties in BPD. However, it fails to offer a coherent structure for understanding the disturbed sense of self and others that is characteristic of BPD.

1.3.2 Conceptualisation of the Other in BPD: Analytic Models

Object-Relations Model of BPD

Object-relation theories derive from psychoanalytic models of personality development. In particular, object-relation theories focus on the developmental process of internalising dyadic

object-relations encountered in early childhood, which are understood to form the foundations of intrapsychic structures (Clarkin *et al.*, 2007). According to psychoanalytic theories, borderline pathology emerges from the developmental failure in the pre-oedipal years to integrate both positive (idealised) and negative (persecutory) representations of the self and others. Experiences of an invalidating family environment or an enmeshed attachment, abuse or neglect may lead the child to split off object-relation parts, including a representation of a malevolent other, abandoning, abusing or rejecting the 'bad' self, and a 'good', compliant, dependent self in relation to an idealised other (Fairbairn, 1944; Fonagy, 2000; Kernberg, 1967; Masterson, 1988). For example, Fonagy (2000) proposes that in the case of childhood abuse, to protect the image of an idealised caregiver, the child splits off the abusive, 'bad' parts of the self and others.

Borderline individuals are hypothesised to continue to depend on early primitive defenses, such as splitting, denial and projection (attributing one's own thoughts, feelings or motives to another), to maintain the separation of good and bad affect of the good and bad object. The perception of the self and other is marked by rigid, inflexible dichotomies where the self and others are either 'good' (idealised) or 'bad' (persecutory) (Clarkin *et al.*, 2007; Gregory, 2007). Incompatible parts of the self or others may be distorted, denied or projected to maintain a view that fits with this dichotomy. In projective identification, the intolerable cognitive affective elements of the self are hypothesised to be unconsciously denied and projected on to the other, leading the other to act out the projection (Clarkin *et al.*, 2007).

Compared to cognitive models of BPD, the object-relation model of BPD provides a more comprehensive framework for understanding the disturbed sense of self and others in BPD and the way these may relate to the aetiology factors, such as early childhood experiences of attachment, abuse or neglect. However, this model provides a less clear foundation for making sense of the genetic/temperament factors implicated in the aetiology of BPD and other common presenting features in BPD, such as impulsivity.

Cognitive Analytical Model of BPD

Cognitive analytic theory ("CAT") of BPD draws on and integrates theories from cognitive-behavioural and analytic traditions (Ryle, 1995). The CAT model of BPD has strong theoretical parallels with object-relation models of BPD. According to CAT, early relationships with others are internalised as reciprocal roles incorporating a role of the self, the other and the relationship between the two (e.g. caring-to-nurtured, abusing-to-victimised). Early repetitive exposure to negative and traumatic interpersonal relationships is hypothesised to lead to a limited range of poorly integrated, inflexible and maladaptive

reciprocal roles (Ryle, 1997). As a result, borderline presentation is characterised by a number of partially dissociated multiple self-states, each differentiated by a particular pattern of reciprocal role procedures, affect, behaviour and symptoms. Within a self-state, the individual may enact either pole of the reciprocal role in relation to the self or other. Expectations or perceptions of the other in a particular reciprocal role may lead borderline individuals to adopt the opposing role in that self-state. For example, in interaction with a therapist who is perceived to be potentially caring, the individual may adopt the opposing reciprocal role of passive, dependent and perfectly cared for. Shifts in self-states may also arise in response to subtle stimuli. For example, perceived criticism in therapy may lead to a rapid shifting in states from 'perfectly caring-passive, dependent, perfectly cared for' to 'critical other-emotionally blunted'.

The CAT model of BPD recognises five self-states to be particularly common in borderline presentations, abuser: victim; idealisation, perfect care, safe: perfectly cared for; critical, unavailable or rejecting other: emotionally blunted; threatening or absent other: zombie, emotionally blank; and threatening or humiliating other: loss of control, rage. In common with the object-relation model of BPD, the CAT model of BPD recognises mutually exclusive, oscillating views of others and provides a framework for understanding the relationship between these views of the others and aetiological factors, such as, abuse or neglect. The CAT model, however, explicitly describes how these self-states may emerge in response to particular views of the other and may be linked to particular emotional and behavioural states i.e. emotionally blunted or abuser. This model, therefore, provides a clearer framework for making sense of other presenting features of BPD, such as dissociation (zombie, emotionally blank) or self-punitive behaviour (abuser).

Mentalisation Model

Fonagy & Bateman's (2007) mentalisation model of BPD proposes that BPD is characterised by deficits in the social affiliative system, including the representation and regulation of affect, attention control and the capacity to mentalise. Mentalisation refers to the capacity to recognise and understand affective and intentional states of the self and others. A secure attachment relationship is hypothesised to facilitate the capacity to mentalise. In a secure attachment, the caregiver's marked contingent mirroring of the infant's emotional signals is hypothesised to enable the infant to differentiate his/her emotional states from the caregiver's and to develop an accurate internal representation of his/her emotional state that matches the subjective bodily sensations. Subsequent experiences of the caregiver, differentiating, labelling and validating the child's emotional experiences, are hypothesised to facilitate further the capacity to mentalise. Fonagy & Bateman (2007) postulate that the mentalisation

capacity of individuals with BPD may be impaired by early disruptive attachment experiences. Mentalisation is also hypothesised to be inhibited by childhood experiences of abuse or neglect, which may not only act to elevate children's emotional arousal, thereby hindering their capacity to mentalise, but may also inherently undermine and invalidate children's own experiences.

Inhibited or limited mentalisation capacity is hypothesied: i) to impair the borderline individual's capacity to understand their own and others' minds, particularly within relationships that trigger the attachment system; ii) to lead to the emergence of prementalistic representations of internal states, where the individual's cognitive and affective presentation does not reflect the genuine experience of the self or the other, and may instead reflect activation of early dissociated representations of the self/other, e.g. activation of highly complex but idiosyncratic representations of others' states as malevolent, bearing no relation to the external reality; and iii) to lead to the internalisation of the caregiver's non-contingent response to the infant's emotions as an 'alien self', which is in turn externalised onto an other, leading to the other being perceived as abandoning, threatening, abusive or contemptible.

In common with other analytic models of BPD, this model provides an understanding of the potential developmental pathway from early attachment difficulties, abuse or neglect to the subsequent presenting features of BPD, particularly the characteristic oscillating view of others. However, in contrast to the other analytic models of BPD, this model considers mentalisation deficits, in addition to unintegrated representations of the self and others, to be at the core of the interpersonal difficulties in BPD. The incorporation of mentalisation deficits in this model, may offer a better framework for understanding other aspects of borderline individuals' presenting difficulties, such as their difficulties regulating emotions.

1.3.3 The View of the Other in BPD emerging from Experimental Studies

Despite the different strengths and weaknesses of these models and the divergent theoretical underpinnings of the reviewed models, certain commonalities emerge in relation to the view of the other in borderline individuals. All the models recognise antagonistic beliefs/schemas/representations of the other as i) 'good', 'idealised', 'protective', 'strong' or 'caring' and ii) 'bad', 'threatening', 'malevolent', 'abusive' or 'rejecting'. Ryle's (1997) CAT and Young *et al.*'s (2003) schema model also differentiate further representations of the self and other, which elaborate on these themes.

Analytic research confirms the core representation of a threatening, malevolent other in borderline presentations. In psychoanalytical literature, the borderline individual's representations of the other have been explored using a number of paradigms including, the Rorschach human figure (Blatt & Lerner, 1983), Rorschach's Mutuality of Autonomy Scale, the Bell Object Relations Inventory (Bell *et al.*, 1988), Social Cognition and Object Relations Scale (Westen, Barends *et al.*, 1990), Early Memories Procedure (Bruhn, 1992a,b), Thematic Apperception Test (Westen, 1991) and Interpersonal Styles (Tramantano *et al.*, 2003). These studies indicate that borderline individuals share common object-relational dimensions relating to 'lack of interpersonal trust' and 'a sense of alienation from others' (Bell *et al.*, 1988; Bender *et al.*, 2003). Furthermore, the internal structure of borderline individuals is consistently marked by a 'highly malevolent object world' where the representations of the self and other are distorted and biased toward hostile attributions (Nigg *et al.*, 1992; Tramantano *et al.*, 2003; Westen, Ludolph *et al.*, 1990; Zodan, 2009). Borderline adults' mental representations of their own caregivers as assessed on the Adult Attachment Interview ("AAI") (Main & Goldwyn, 1998) indicate similarly globally devaluing representations of others (Lyons-Ruth *et al.*, 2007).

Similar findings emerge from research stemming from the cognitive tradition. The schemas, beliefs, perceptions and attributions of borderline individuals have been explored in relation to the Personality Belief Questionnaire (Beck *et al.*, 2001); the Schema Mode Questionnaire (Arntz *et al.*, 2005); the Young Schema Questionnaire (Young, 1998); and neutral facial expressions, spontaneous attributions to adult characters and selective attention interference effects on the Stroop test. These studies confirm beliefs in the 'rejecting', 'threatening', 'hostile' other and self 'dependency' beliefs in relation to the other (Arntz *et al.*, 2005; Bhar *et al.*, 2008; Butler *et al.*, 2002; Jovev & Jackson, 2004; Reeves & Taylor, 2007). The literature also indicates that borderline individuals tend to misattribute threat or negative intent to ambiguous interpersonal stimuli, to display hypervigilance/hypersensitivity to threat-based interpersonal stimuli and to display limited mentalising ability in the context of threatening stimuli (Artnz *et al.*, 2000; Arntz & Veen, 2001; Barnow *et al.*, 2009; Donegan *et al.*, 2003; Dyck *et al.*, 2009; Wagner & Linehan, 1999).

There is, however, less evidence in the literature of the other being viewed in 'idealised' or positive terms (Baker *et al.*, 1992; Donegan *et al.*, 2003; Veed & Arntz, 2000).

1.3.4 Representation of Others in BPD: Representation of Child

The literature indicates that borderline individuals' representations of the other are predominantly malevolent, threatening or negative. It might be proposed, therefore, that similar representations of the other may dominate borderline parents' representations of their own children. Within psychoanalytic literature, the possibility that experiences from parents' own past, or 'ghosts in nursery', may influence the parents' understanding of and responses to their child has long been recognised (Fraiberg, S., 1975). Consistent with this picture, adults with a history of physical abuse appear not only to represent significant other adult relationships as hostile or negative, but also to display similar negative distortions in their representations of their children (Gara *et al.*, 1996, 2000; Schechter *et al.*, 2004, 2005). These studies also highlight the potential role of the child in triggering post-traumatic symptoms in parents with a history of physical childhood abuse (Schechter *et al.*, 2003), which may heighten the parents' negative perceptions of the child, as the child is viewed as re-enacting the role of the original perpetrator.

> *'He has an angry, violent streak that runs in my family.....he tries to control me'*
> (p. 327, Schechter *et al.*, 2005)

The mentalisation model of BPD would suggest that parents with BPD may additionally struggle to recognise the child as a separate individual with his/her own intent and affective states (Fonagy & Bateman, 2007; Slade, 2005). As a result, borderline parents may be more likely to impose representations of past attachment relationships onto the current parent-child relationship, leading to hostile representations of the child (Schechter *et al.*, 2005; Slade, 2005).

However, while there appears to be a strong relationship between parents' representations of their own childhood attachment experiences and their subsequent representation of their relationship with their infant, becoming a parent is recognised potentially to activate alternative aspects of the relational schemas as a parent's goal shifts from being protected to being a provider of protection to a dependent other (George & Soloman, 1996; Mayseless, 2006). The parent's representation of their relationship to the child is, therefore, recognised to be linked to, but potentially distinct from, their attachment relationship of origin (Aber *et al.*, 1985; George & Soloman, 1996; Mayseless, 2006; Zeanah *et al.*, 1996). Cognitive analytic and schema mode models of BPD similarly indicate that, while the self-states/modes of borderline clients oscillate in response to subtle stimuli within a relationship, individual

relationships may also be marked by particular self-states or schema modes depending on the perceived or actual role of the other (Ryle, 1997; Kellogg & Young, 2006). It is, therefore, possible that the representation of the child may be distinct from the predominantly hostile view of others associated with BPD.

The possibility of parents with a globally hostile view of others imposing a different representation on the child is evidenced in studies of parents with unresolved attachments in relation to early trauma[6]. Main & Hesse (1990) proposed that parents classified as unresolved on the AAI may present with unresolved fear in the context of the parent-infant attachment, which would manifest itself as either frightening (hostile) or frightened (helpless) behaviour towards the infant. Research in this area has particularly focused on parents displaying hostile-helpless states of mind as categorised by an extension to the coding system on the AAI (Lyons-Ruth *et al.,* 1995-2005). According to the categorisation of hostile-helpless states of mind, these parents display globally devalued views of their core attachment figure, including contradictory, but unintegrated, evaluations of the caregiver (Lyons-Ruth *et al.*, 1999, 2005). As predicted by Main & Hesse (1990), in their interactions with their infants, these parents were observed to display either helpless, frightened or withdrawn behaviour, where the parent appeared to enact the vulnerable, helpless role towards a 'powerful / protective' child, or to display frightening, hostile, intrusive behaviour, where the parent seemed to be enacting a controlling and hostile role towards a 'malevolent/ abusive' child. While in some parents, both behaviour patterns were apparent, hostile-helpless parents appeared predominantly to display one or other pattern (Lyons-Ruth *et al.*, 1999, 2005). This hostile-helpless state of mind emerged in the classification of 75% of borderline adults (Lyons-Ruth *et al.*, 2007), potentially indicating that borderline parents, in their relationship with their children, may not necessarily display a hostile or controlling role, but may instead adopt a frightened/helpless victim role. Support for this is provided by the preliminary findings of Hobson *et al.*'s (2009) and Newman *et al.'s* (2007) studies of borderline mothers' frightened/disoriented behaviour with their infants. It is, therefore, still unclear whether borderline parents will indeed show the same hostile perceptual, attributional biases in relation to their children as has been demonstrated in adult studies.

Parental attributions are a parent's assertions about their child's way of being, relating or acting. From this perspective, they may be viewed as indices of a parents' relationship to their child or external clues to their internal representations of the parent-child relationship

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[6] On the Adult Attachment Interview ("AAI") (Main & Goldwyn, 1998), individuals are classified as 'unresolved' if there is evidence of unintegrated states of mind in relation to childhood experiences of loss or abuse. Unintegrated states of mind may be indicated by lapses in reasoning or discourse during the AAI. Unresolved states of mind are considered to be the adult representational measure of disorganised attachment.

(Lieberman, 1999, 2004; Mayseless, 2006). The strong relationship between attributions and parental behaviour means that parental attributions may not only offer critical insight into the parents' representations of the child or of the caregiver relationship, but may also provide a picture of the potential role that parents' representations may play in mediating parental behaviours, such as abuse or neglect. In particular, the dominant themes of 'threat' and 'hostility' in borderline representations of others suggest that these attributions may be particularly relevant to borderline parents' behaviour.

1.4.1 Introduction to Parental attributions

Attributions may be defined as the cognitive appraisals or explanations that people ascribe to behaviour. Attribution theories developed from the social cognitive tradition and stem from the recognition that individuals inherently seek to identify causes for social events in order to select an appropriate response: 'What made something happen?', 'Who or what were the sources of causality?'. Theories of attributions focus on the way individuals explain and evaluate their own and others' behaviours and how such causal explanations shape individuals' subsequent responses and behaviour (Heider, 1958; Lazarus & Folkman, 1984; Kelley 1967; Weiner, 1986, 2008). According to these theories, cognitive processes are central to mediating emotional and behavioural responses to interpersonal events. For example, in failing an exam an individual may attribute the failure to lack of effort, and this attribution may lead to increased effort in subsequent exams. Alternatively, an individual may attribute the failure to lack of ability, which may lead to a disengagement from studies.

Parental attributions refer to the explanations that parents generate to explain their own or their children's behaviour in parent-child interactions. As a child's motivation is often not clear, parents are postulated to be readily drawn into generating attributions or inferring causes to ensure an appropriate parenting response: 'Why is my child crying?', 'Why did he refuse to tidy up?' (Miller, 1995). There is an extensive literature based around parental attributions (Bugental *et al.*, 1998; Bugental & Johnson, 2000; Holden & Edwards, 1989; Joiner & Wagner, 1996; Johnson & Ohan, 2005; Miller, 1995). Research has focused both on understanding the processes and factors influencing the formation of parental attributions and on exploring the way parental attributions influence childcare outcomes.

Types of Parental Attributions

The literature on parental attributions reflects two different traditions in the approach to understanding attributional processes: the first has focused on stimulus-dependent attributions that are hypothesised to arise in response to a child behaviour stimulus and to

generate a spontaneous, self-aware and active search for an explanation; the second has centred on attributional processes or styles that are considered to stem from more schematic, memory-based and implicit, unconscious cognitive processes. While the two traditions focus on different processes, they are not mutually exclusive. In reality, stimulus-dependent attributions and schema based cognitions are continually interacting and there is not always a clear distinction between the two.

1.4.2 Parents' Stimulus-Dependent Attributions

Stimulus-dependent attributions are hypothesised to involve deliberate, effortful and conscious reasoning processes in response to a caregiver event or specific child behaviour. These attributions are closely linked to traditional theories of attribution (Heider, 1958; Kelley, 1967).

Measures of stimulus-dependent attributions explore the attributions elicited following a child behaviour stimulus. While this may involve spontaneous attributions emerging in the context of parent-child interactions, more frequently this would take the form of a written description, vignette or video recording of a child behaviour with a parent being asked to generate open ended responses or rate their response on a Likert scale (Bugental *et al.*, 1998). For example, parents might be asked to attribute the degree of hostile intent ascribed to a hypothetical child behaviour such as, 'Your baby has been very difficult all day. You give her/him a bottle to make her/him feel better. She/he throws it on the rug and it breaks' (Plotkin, 1983).

Models of Parents' Stimulus-Dependent Attributions

Models of parents' stimulus-dependent attributions recognise that the attribution process draws on both proximal factors, such as the child's mood or the immediate environmental context, and distal factors, such as previous experiences of parent-child interactions.

The Role of Proximal Factors in Parents' Stimulus-Dependent Attributions

In line with classic attribution theories, models of parental stimulus-dependent attributions assume that, in evaluating children's behaviour, parents consciously analyse the causes of their immediate behaviour (Azar & Twentyman, 1986; Azar & Weinzierl, 2005; Dix & Grusec, 1985; Dix *et al.*, 1986, 1989; Milner, 2003). Critical to this analysis is the assessment of intentionality (Heider, 1958). Parents' assessments of intention not only incorporate an assessment of motivation, that is whether the child desired the effects of their behaviour, but also whether the child had the capacity to control the effects, that is whether

the child i) understood the likely effects of their behaviour (knowledge); ii) had the capacity deliberately to produce the effects if desired (ability); and iii) was free of any external control or pressure. According to Dix & Grusec's (1985) model of parental attributions, the assessment of intentionality constitutes Step 1 in a two step attributional process. Where a child's behaviour is viewed as intentional, parents are then hypothesised to infer the extent to which the behaviour reflects the child's disposition based on their beliefs about his/her intentions (Step 2). These causal deductions from the child's behaviour are next hypothesised to influence parental affective reactions and to guide subsequent parental responses (Dix & Grusec, 1985).

In parental attributions, factors such as the child's age, the child's physical and cognitive capacities, the child's ability to learn, parents' expectations of the child's behaviour and parents' developmental knowledge are considered to be critical to the conscious analysis underlying parental attributions (Azar & Twentyman, 1986; Azar & Weinzierl, 2005; Dix & Grusec, 1985; Milner, 2003). Consistent with these models, the literature on parental attributions indicates that parental attributions of intent/responsibility increase with the age of the stimulus child (Dix *et al.*, 1986, 1989; Miller, 1995), with behaviour arising from less complex activity (Dix *et al.*, 1986, 1989; Miller, 1995), and in the context of more unrealistic parental expectations (Azar *et al.*, 1984; Azar & Rohrbeck, 1986; Haskett *et al.*, 2003). However, these findings have not been consistently replicated (Haskett *et al.*, 2003, Haskett & Willoughby, 2007; Miller, 1995; Rubin & Mills, 1992), indicating the potential role of other factors in the initial assessment of intentionality, as well as in the wider attributional process.

The Role of Distal Factors in Parents' Stimulus-Dependent Attributions

More recent models of parental attributions recognise that parental beliefs or schemas or internal working models (Bowlby, 1980) not only influence subsequent parental inferences about the dispositional nature of the child's behaviour, but also are highly influential in the initial stages of information processing in relation to the child's behaviour (Azar *et al.*, 2005; Azar & Weinzierl, 2005; Milner, 2003).

Schemas refer to internal representations or cognitive structures that develop from experiences of the self, others and the world, and that act to organise future experience. Schemas are hypothesised to influence unconsciously the perception, categorisation, interpretation and integration of future experiences, in order to reduce the demands on information processing; schemas act to direct perception to relevant information and aid the interpretation of new information by drawing on stored data of similar situations. Flexible

and differentiated schemas do not interfere with the efficient response to environmental stimuli and allow for the generation of multiple alternative explanations. Such schemas may be modified as new information is processed that is contradictory to, or extends, current schemas. For example, parenting experiences may, themselves, shape parenting schemas; parents with an impulsive child may learn to provide additional monitoring to ensure the child's safety.

Schemas formed in infancy are recognised to be particularly influential. For example, childhood experiences of a dismissive or rejecting parent may predispose an individual to develop a schema of others as rejecting. Potentially rejecting interpersonal situations, such as intimate relationships or friendships, may then activate the rejecting schema, increasing an individual's vigilance to signs of rejection in others (perception). Ambiguous social interactions, such as an unreciprocated text message, may be misinterpreted as 'rejecting' to fit with the schema of others, and these experiences may then be assimilated into the pre-existing schema. Schemas may, therefore, create unconscious biases in the attributional process.

Parent schemas may include beliefs about one's own functioning as a parent, conceptions of the caregiver role, beliefs about others and one's own child in particular. The literature on parental attributions points to the role of maladaptive parent schemas in shaping parents' stimulus-dependent attributions. For example, parents' authoritarian conceptions of the caregiver role (Azar *et al.*, 2005; Caselles & Milner, 2000; Dix *et al.*, 1989), parents' hostile beliefs about others (Haskett *et al.*, 2007; Macbrayer *et al.*, 2003; Miller & Azar, 1996) and parental depression (Bolton *et al.*, 2003; Leung & Slep, 2006) are associated with increased attributions of intent/responsibility in relation to negative child behaviours. In considering the attributions of mothers with borderline personality disorder, it may be important to be vigilant of this latter relationship between parental depression and parental attributions of intent/responsibility due to the high comorbidity of depression and BPD. Hostile other schemas have also been implicated in the negative child-centred attributions of parents at risk of child abuse (Farc *et al.*, 2008).

Grusec *et al.* (1993, 1994) and Grusec & Mammone (1995) indicate the relative importance of distal experiences, those of the parent's own childhood, as opposed to more proximal experiences, those of the child's immediate behaviour, in parents' attributions. Grusec *et al.* (1993) found that parents categorised as preoccupied and dismissive in terms of their own childhood attachment attributed more responsibility, intent and blame to negative child behaviours. Similarly, Grusec *et al.* (1994) found that parents' internal representations of

relationships, developed from their own childhood experiences, played a critical role in their attributions of children's negative behaviour. More recently, research exploring parents' internal representations of the child have linked such representations specifically to maternal attributions (Gara *et al.*, 2000; Lieberman, 1999; Schechter *et al.*, 2006).

Links between Stimulus-Dependent Attributions and Parent-Child Outcomes

As outlined above, parents' stimulus-dependent attributions are hypothesised to impact on parents' affective and behavioural responses to children's behaviour. Consistent with this picture, interpretations of children's ambiguous or negative behaviour as hostile, intentional and blameworthy have been found to increase the probability that parents will respond with more negative affect, particularly anger, will display more criticism and use more power assertive discipline approaches (Bugnetal & Johnson, 2000; Miller, 1995). Negative parental attributions for child misbehaviour or ambiguous behaviour, including attribution of blame, hostility and responsibility, have also been linked to parental abuse and neglect (Larrance & Twentyman, 1983; Nix *et al.*, 1999; Slep & O'Leary, 1998, 2007; Strassberg, 1995). Research on the intergenerational transmission of abuse has highlighted the critical role that parental attributions may play in the repetition of abuse in subsequent generations (Dixon *et al.*, 2005; Putallaz *et al.*, 1998; Zeanah & Zeanah, 1989).

Parents' negative stimulus-dependent attributions have also been associated with negative attributional biases in their children (Dodge, 1993; Halligan *et al.*, 2007; Lieberman, 2004; MacBrayer *et al.*, 2003); childhood disruptive behaviours, such as ADHD; oppositional defiant disorder and conduct disorder (Johnson & Ohan, 2005; Strassberg, 1995, 1997); and child adjustment (Joiner & Wagner, 1996). While most of these studies are correlational and cross-sectional in nature, thereby limiting the conclusions that can be drawn from the findings, evidence from longitudinal studies and the experimental manipulation of maternal attributions provides support for the causal nature of parental attribution in child outcomes (Nix *et al.*, 1999; Slep & O'Leary, 1998). Clinically, parents' negative child-centred attributions appear to reduce their receptivity to, and the effectiveness of, behaviour-based parenting interventions (Mah & Johnston, 2008; Scott & Dadds, 2009).

1.4.3 Parents' Attributional Style

Attributional style refers to the stable knowledge structures that influence the way individuals interpret events. These knowledge structures are understood to act as chronically accessible schemas, which may be easily accessed in response to new or ambiguous events.

Such attributions are recognised to reflect characteristics or 'trait-like' features of the parent, which are assumed to act automatically and largely unconsciously.

In contrast to stimulus-dependent attributions, measures of attributional style often include ambiguous and hypothetical child behaviour stimuli. The absence of clear situational or specific child information is postulated to increase parents' reliance on their own pre-existing schema. Attributional style measures consider attributions in relation to a number of basic dimensions, with measures typically exploring these dimensions in terms of a Likert scale (Bugental *et al.*, 1998). These models of parental attributions closely link to Weiner's attributional theory (1986), which highlighted that attributions may vary along three core dimensions: locus (internal-external); stability (stable-unstable) and controllability (controllable-uncontrollable). Attributions of locus assess whether the causes of the child's behaviour lie within the child (internal) or outside of the child, in the environment or in others such as parents (external). Attributions of stability consider whether the cause of the behaviour is transient, such as lack of sleep (unstable) or is likely to persist in the future, such as an aggressive disposition (stable). Finally, attributions of controllability index whether the cause of the behaviour is controllable by the child, such as effort, or uncontrollable, such as illness. Parental attributional style measures also incorporate several further basic dimensions, such as attributions of the pervasiveness of the child's behaviour (global-specific) (Bugental *et al.*, 1998).

The literature on parents' attributional style has focused on two main areas. The first draws on the wider literature on attributional style, where depression has been linked to internal, stable and global attributions for negative events with a locus in the self (Abramson *et al.*, 1988). Parent attribution studies indicate that, similarly, parental depression is associated with internal, stable and global parent-centred attributions, which in turn have been linked to lax parental discipline (Leung & Slep, 2006; White & Barrowclough, 1998). In considering the attributions of parents with BPD, it may be helpful to be mindful of this link between parental depression and internal, stable and global parental attributions due to the high comorbidity of depression and BPD. The second area of study has focused on attributions along the dimension of controllability/power in relation to parents' affective and behavioural reactions to the child. In particular, this area of parental attributions has explored the relative balance of power/control attributed to the child and parent in relation to negative parent-child interactions (Bugental *et al.*, 1989; Silvester *et al.*, 1995). The precursors to, and consequences of, this latter attributional style are elaborated in more detail below.

Model of Low-perceived Balance of Power Attributional Style

Although parents' attributions in relation to the balance of power/control originally evolved from an attributional framework, they are hypothesised to stem from mental representations of the self and others that develop from the parents' own childhood attachment experiences (Bugental *et al.*, 2004; Grusec *et al.* 1993). These mental representations are hypothesised to lead to chronically accessible relationship schemas that influence the interpretation of self-other interactions (Bugental *et al.*, 1993, 1996, 1997). In particular, the attributions relating to control/power are hypothesised to relate to threat-related representations of the self-other, linked to the caregiver context. Bugental *et al.* (1993, 1996, 1997) propose that, in caregiver-child interactions, parents with low balance of power view children as potentially threatening and view themselves in the victim role. Grusec *et al.* (1993, 1994) and Grusec & Mammone (1995) provide preliminary support for the potential role of insecure attachment and the mental representation of the self-other in the development of parents' attributional style, in terms of the balance of control to self-other. The potential role of early childhood experiences, particularly abuse or neglect, in the development of this relationship schema is suggested by the finding of low balance of power in children and parents with a history of childhood maltreatment (Bugental *et al.*, 2002).

According to Bugental *et al.* (1993, 1996, 1997), parents with low perceived balance of power are hypothesised to be hypervigilant to signs of threat in the child, such as unresponsive behaviour, non-compliance, demanding or challenging behaviour, and frequently to misinterpret ambiguous or negative caregiver interactions as potentially threatening to the self. Child-centred perceptions of threat are hypothesised to activate parents' threatening schemas of others, triggering congruent threat-related affective and behavioural responses, including high levels of defensive emotional arousal and defensive parenting behaviours against expected threat (Bugental *et al.*, 1993, 1996, 1997). 'Defensive' parenting behaviour is hypothesised to include verbal derogation and excessive controlling, power assertive or coercive parenting behaviours. In addition, such parents may display more submissive parenting responses to threat, such as appeasement and avoidant behaviour (Bugental *et al.*, 1993, 1996, 1997).

Links between Low-perceived Balance of Power Attributional Style and Parent-Child Outcomes

In support of this model of attributional style, parents who attribute less control to themselves and greater control to their children have been found to be more reactive (negatively) to challenging caregiver scenarios. That is, parents with low perceived balance

of power experience higher defensive autonomic arousal (increased heart rate, electrodermal activity and cortisol reactivity), greater negative affect and engage in less positive control tactics and more coercive and punitive interactions in response to ambiguous or negative child behaviours (Bugental *et al.*, 1993; Lovejoy *et al.*, 1996). Low perceived balance of power is also associated with physical abuse, verbal derogation and parental neglect, including the failure to offer a safe home environment (Bradley & Peters, 1991; Bugental *et al.*, 1989; Bugental & Happaney, 2000, 2004). The literature on parents with low perceived balance of power also indicates that such parents may display conflicting patterns of defensive behaviour, depending on their perceived ability to regain control (Bugental *et al.*, 1999; Mills, 1996). Where parents are more powerless to respond to perceived threat, parents appear to respond with more submissive parenting responses, including 'appeasement' smiles, non-assertive and avoidant behaviour (Bugental *et al.*, 1993, 1996; Mills, 1996).

1.4.4 Summary of Parent Attribution Literature

The literature on parents' hostile stimulus-dependent attributions and parents' low perceived balance of power attributional style indicates the key role that such attributions may play in parents' emotional and behavioural responses to children's behaviour. In particular, these two types of parental attributions are closely linked to more coercive, punitive and/or neglectful parenting. Parents' hostile stimulus-dependent attributions have further been linked to disruptive behaviour disorders. Empirical studies of borderline parents indicate links between parental BPD and both childhood abuse and neglect (Bools *et al.*, 1994; Feldman *et al.*, 1995; Laporte, 2007) and disruptive behaviour disorders (Barnow *et al.*, 2006; Weiss *et al.*, 1996). Exploring the attributions of borderline parents may, therefore, provide a clearer picture of the mediating factors between parental BPD and the traumatic experiences and mental health difficulties of their children. Additionally, given the close relationship between parental attribution and parents' representation of the child (Gara *et al.*, 2000; Lieberman, 1999; Schechter *et al.*, 2006), this study may provide a preliminary understanding of borderline parents' internal representation of the child.

1.5 Hypotheses

In experimental studies with adults with BPD, representation of the other as 'bad', 'malevolent' or 'rejecting' dominates borderline individuals' perception and attributions of others. However, evidence emerging from studies of unresolved parents with a history of abuse and the preliminary findings from the study of mothers with BPD indicate that parents with BPD may respond to their child in a deferential/helpless/frightened manner, potentially indicating a representation of the child as 'good', 'idealised' or 'strong'. These two representations of the other and/or child and the attributions that may stem from these schemas will be considered as equally valid in the hypotheses below.

Previous research in relation to borderline parents has failed to control for current levels of depression in parents with and without BPD, thereby limiting the degree to which these earlier findings may be attributed to parents' borderline presentations as opposed to the presence of co-morbid depression. The literature on parents' stimulus-dependent attributions indicates that parental depression is associated with attributions of greater hostile intent in response to child behaviour incidents (Bolton *et al.*, 2003; Leung & Slep, 2006). Furthermore, depression is characterised by internal, global and stable attributions in response to negative events (Sweeney *et al.*, 1996). This attributional style may interact with attributions relating to the relative balance of control attributed to the adult and child in caregiver interactions. Specifically, parents with higher levels of depression may endorse attribution items relating to stable, global internal causes, leading to perceptions of greater adult/child control over negative child-caregiver interactions. It will, therefore, be critical to control for the potential role of depression in the analysis of parental attributions

Additionally, aetiological studies suggest that genetic factors may be implicated in the development of BPD. Specifically, BPD is linked to an increased vulnerability to impulsive aggressive and harm avoidance temperament traits. It is, therefore, possible that the children of borderline parents may present with more challenging temperaments and behaviour than those of comparison parents. The possible transactional nature of parents' attributions, whereby children's behaviour may act to influence parents' beliefs and attributions, is noted in the literature and theories of parental attributions (Bugental & Johnston, 2000). Research studies indicate that exposure to more challenging child behaviour may lead parents to develop more negative and hostile child-centred attributions (Hasting & Rubin, 1999; Snyder *et al.* 2005). Similarly, childhood behaviour problems have been linked to the development of more internal, global and stable parental attributions (Johnston & Ohan, 2005). This latter parental attributional style may interact with parents' perceptions of control in negative

child-caregiver interactions, as is outlined in more detail above. It is, therefore, possible that the experience of parenting a child with a more challenging temperament may influence parents' attributions in relation to the perceived balance of power or the degree of hostile intent underlying children's negative behaviour. The analysis of parents' attributions will, therefore, also control for the level of the child's emotional and behavioural difficulties.

Hypothesis 1

When variance relating to maternal depression and the degree of children's emotional and behavioural difficulties is controlled for, there will be a significant difference between the borderline and control mothers' perceptions of the relative balance of control in negative parent-child interaction as measured by the Perceived Control over Failure sub-scale on the Parent Attribution Test ("PAT") (Bugental *et al.*, 1989).

Hypothesis 2

When variance relating to maternal depression and the degree of children's emotional and behavioural difficulties is controlled for, there will be a significant difference between borderline and control mothers' attributions of negative hostile intent as measured by the Negative Attribution sub-scale on the Child Vignettes ("CV")
(Azar, 1989; Plotkin, 1983).

Secondary Hypotheses

The study also aims to explore whether significant differences emerge in mothers' responses on the other sub-scales of the Child Vignette and the Parent Attribution Test. It is hypothesised that when variance relating to parental depression and the degree of children's emotional and behavioural difficulties is controlled for, there will be significant differences between borderline and control mothers':

- levels of punishment in response to ambiguous or negative child behaviour as measured by the Punishment sub-scale on the CV;
- attributions of hostile intent and levels of punishment in response to ambiguous or negative child behaviour as measured by the Total Score on the CV;
- perceptions of the extent of parents' control over negative parent-child interactions as measured by the Adult Control over Failure (ACF) sub-scale on the PAT; and
- perceptions of the extent of children's control over negative parent-child interactions as measured by the Child Control over Failure (CCF) sub-scale on the PAT.

CHAPTER TWO

METHODOLOGY

Methodology

2.1 Design

A between subject, cross-sectional design was adopted to investigate whether the responses of mothers with a confirmed diagnosis of BPD differed significantly from those of mothers with mild to moderate depression and/or anxiety and no diagnosis of BPD, on measures of child-centered stimulus-dependent attributions and parental attributional style.

2.1.1 Analysis of Power

The sample size required to achieve sufficient power to reject the null hypothesis was calculated with the assistance of the software package G*power 3 (Faul *et al.*, 2006). As outlined in the introduction, there is limited research on parents with BPD and none using the outcome measures that are of interest in this study. In the absence of an equivalent clinical population, the analysis of power drew on research comparing abusive/neglecting parents with parents with no history of child abuse or child neglect (Bradley & Peters, 1991). Given the possible relationship between borderline parents and abusive or neglecting parenting behaviour, this population was felt to be the closest match for the purposes of this power analysis (Bools *et al.*, 1994; Dinwiddie & Bucholz, 1993; Famularo *et al.*, 1992; Howard *et al.*, 2003; Laporte, 2007; RSP, 2002, 2003).

Based on the primary outcome measure (Parent Attribution Test: parents' perceived balance of power in negative parent-child interactions), an effect size (d) of 1.45 (Appendix 4) emerged (Coe, 2002) in relation to the difference between punitive/neglecting parents (N=8, M=-0.35, SD=1.72) and non-abusive/neglecting parents (N=8, M=1.78, SD=1.16; Bradley & Peters, 1991). Using a Cohen's standard $\propto$ level of 0.05, with a recommended power of 0.8 (i.e. an 80 percent chance of detecting the presence of a genuine effect where this exists) and effect size (f) of 0.725 (converted from Cohen d=1.45; Appendix 4; Olejnik & Algina, 2000), it was estimated that for a one way ANCOVA controlling for two covariants, a sample size of nine per parent group would be required for significant differences between these populations to be accurately detected. To accommodate the possibility that such a large effect size might not be replicated in this study and to avoid duplicating the methodological weaknesses of previous similar studies, the original aim was to recruit a sample size of eighteen in each parent group.

2.2 Participants

Nine mothers with a confirmed diagnosis of BPD participated in the study, together with a control group of nine mothers with mild to moderate depression and/or anxiety in the absence of a diagnosis of BPD.

Index Mothers: Mothers with a Confirmed Diagnosis of Borderline Personality Disorder

All index participants had a confirmed diagnosis of BPD and reported being the biological parent and main carer of their children. In all cases, the original BPD diagnosis had been provided by a consultant psychiatrist using DSM-IV between 1995 and 2008. While the study had originally sought to recruit index and control parents of either gender, only one male index participant was recruited. Due to insufficient numbers of male parents in the index and the control group, this additional participant was excluded from all subsequent data analysis. All index participants were therefore mothers aged between 25 and 55 years of age. While all mothers necessarily had one child between 3 and 16 years of age, children ranged in age from six months to 26 years of age. The number of children ranged from one to seven.

Mothers with a confirmed diagnosis of BPD were recruited via two distinct recruitment routes: the National Health Service ("NHS") Scotland (four mothers) and voluntary national mental health agencies in Scotland (five mothers). Participants recruited via NHS Scotland were aligned with the following NHS trusts: NHS Lothian Primary Care Trust ("PCT") (three mothers) and NHS Grampian (one mother). Non-NHS index participants were aligned with the following regions of Scotland: Grampian (one mother), Lothian (three mothers) and Tayside (one mother). At the time of recruitment, all NHS and non-NHS based participants were actively engaged with a mental health clinician, including psychiatrists, psychotherapists, community psychiatric nurses or clinical psychologists.

Control Mothers: Mothers with Mild to Moderate Depression and/or Anxiety in the Absence of a Diagnosis of BPD

Seventeen control parents agreed to participate in the study: eight from NHS Lothian and seven from NHS Fife. Of these, only ten participants completed the study. Due to the anonymous nature of the return questionnaires, it is not possible to identify the individual NHS boards that each participant was aligned with. At the time of recruitment, all participants were actively engaged in individual or group psychological therapy with a mental health clinician, including community psychiatric nurses, clinical psychologists,

associate psychologists, clinical psychologists in training and assistant psychologists. All participants presented with depression and/or anxiety as their primary presenting problem. Prior to the data analysis stage, one control participant was subsequently excluded from the study based on the exclusion criteria for control parents that were, necessarily, implemented at this stage. A total of nine participants were therefore included in the subsequent data analysis.

All control participants were mothers. In all cases, mothers reported being the biological parent and main carer of their children. Mothers ranged in age from 25 to 45 years of age and reported being a parent to between one and three children. Children ranged in age from eighteen months to eleven years.

2.2.1 Inclusion Criteria

Index Parents

The inclusion criteria applied to index parents were:

•that they be currently engaged with voluntary or NHS-based mental health services in Scotland, with an independently confirmed diagnosis of a Cluster B[7] PD or the equivalent cluster of symptoms as categorised by ICD-10[8]; and

•that they have a parental role[9] in relation to one or more children between 3 and 16 years of age.

In light of the high levels of aetiological, diagnostic and theoretical overlap between BPD and other Cluster B PDs (Fossati *et al.*, 2007; Kraus & Reynolds, 2001; Torgensen *et al.*, 2008), particularly antisocial personality disorder ("ASPD") (Bateman & Fonagy, 2008; Beauchaine *et al.*, 2009; Coid *et al.*, 2006), and the preliminary evidence of dysfunction in the parent-child relationships of the wider Cluster B diagnoses (Conroy *et al.*, 2010; Hans *et al.*, 1999; Howard *et al.*, 1995; Johnson *et al.*, 2006), the study initially sought to recruit parents with a confirmed diagnosis within this wider Axis II cluster. However, perhaps as a

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[7] DSM IV lists ten personality disorders, grouped into three clusters: Cluster A, B and C. Cluster B includes antisocial, borderline, histrionic and narcissistic personality disorders.

[8] Within ICD-10 the terms 'Emotionally Unstable Personality Disorder of Borderline type' and 'Histrionic Personality Disorder' are used to refer to the same cluster of symptoms as BPD and HPD respectively. "Dissocial Personality Disorder" is used to refer to a personality type conceptually similar to ASPD. Under the ICD-10 categorisation, there is no equivalent category for NPD.

[9] A 'parental role' includes individuals who continue to have contact with their biological children but no longer act as the key care-giver, and individuals who are not the biological parent to the children but provide a core parental role, such as being a step-parent, foster parent or adopted parent. This broader definition of parents was adopted in the present study in response to the literature on parental personality disorder, which indicated that the children of personality disordered parents may be more likely to be in the care of other adults or to live in reconstituted families (Howard *et al.*, 2003; Feldman *et al.*, 1995; Laporte, 2007).

result of the higher prevalence of BPD in health care settings, only participants meeting this particular Cluster B diagnosis volunteered to participate in the study. The study, therefore, limited its scope to considering the implications of parental attributions relating to this personality disorder.

Control Parents

The inclusion criteria for control parents were:

- that they be currently attending psychological therapy services in NHS Scotland;
- that they have a primary presenting problem of anxiety and/or depression; and
- that they have a parental role in relation to one or more children between 3 and 16 years of age.

2.2.2 Exclusion Criteria

Index Parents

The following exclusion criteria were applied to index parents:

- that they have made a suicide attempt within the last four weeks; or
- that they be currently, or have recently (within the last 4 weeks) been, in inpatient care in acute adult mental health services (research into suicide and homicide following psychiatric admission indicates that those diagnosed as having a PD accounted for only 11% of suicides following discharge from hospital; however, completed suicides were most likely to occur within the first three weeks post-discharge (Appleby, 2006)); or
- that they have co-morbid mental health problems that are not stable at the time of recruitment, such as florid psychosis, hypermanic episode or substance abuse; or
- that they present with symptoms of severe dissociation.

Due to the nature of the recruitment in non-NHS sites, it was not always possible to apply these exclusion criteria to index parents recruited out with the NHS.

Control Parents

The following exclusion criteria were applied to control parents subsequent to data collection:

- that they score above 2.50 on the Clinical Outcomes in Routine Evaluation - Outcome Measure ("CORE-OM") (a score of below 2.5 on the CORE-OM is considered to be consistent with mild to moderate mental health problems (Barkham *et al.*, 2005); or

•that they score above the clinical cut-off for any Cluster B PD on the Screening Questionnaire for the Structured Clinical Interview for DSM-IV-TR Axis II Personality Disorders ("SCID-II-PQ") (First *et al.*, 1997a).

In addition, the following exclusion criteria were applied to control parents at the point of recruitment:

•that the have a history of a confirmed Cluster B PD diagnosis; or

•that they score above 2.50 on the CORE-OM at the point of entry to psychological services (the CORE-OM is a baseline measure routinely completed by clients at the point of engagement with the psychological services in NHS Fife and NHS Lothian; where potential participants presented with a completed CORE-OM, clinicians were asked to apply this exclusion criterion prior to recruitment).

2.3 Materials

The following self-report measures were included in the questionnaire for both index and control parents (Appendices 5 and 6 respectively).

2.3.1 Demographic Questionnaire

To allow index and control participants to be matched as far as feasible for parental gender, age and number, and for the age and gender of their children, demographic information was collected relating to parental age, gender, relationship to children and the number, age and gender of children. The questionnaire also enquired about whether participants' children presented with any specific educational needs or physical or emotional problems to allow parents to be further matched for this variable.

In the index group, the demographic questionnaire for participants recruited from services outwith the NHS also included an additional question as to whether index parents were currently involved with any NHS based mental health service. This was included to establish the extent of homogeneity across NHS recruited and non-NHS recruited index participants.

2.3.2 Child Vignettes

The Child Vignettes ("CV") (Azar, 1989; Plokin, 1983) is a 36 item, two-part measure primarily devised to measure parents' stimulus-dependent attributions in relation to episodes of child misbehaviour. CV includes 18 vignettes of hypothetical children ranging in age from infancy through to primary school. The vignettes depict typical child misbehaviour ranging

from ambiguous behaviours, such as "Soon after you place your two year old in the next room you hear her/him crying", to contextually based misbehaviours, such as "Your seven year old has flu and is sick in bed with a fever and stomach ache. When you take him/her his/her supper, he/she refuses to eat", to incidents of more explicitly intentional misbehaviour, e.g. "Shortly after you punished your five year-old, you tell her/him to play quietly with her/his toys. Very soon after this instruction she/he stands up, looks you in the eye, throws a toy at an expensive lamp, breaks it, and then laughs".

Parents are asked to imagine that the child depicted in the vignettes is their own and are directed to consider the degree to which the child's behaviour is intended specifically to annoy them (Negative Attribution sub-scale) and how much they would punish the child in response to the behaviour (Punishment sub-scale).

All items are rated on a nine point Likert scale. Attributions of negative intent range from 1 (my child did not mean to annoy me at all) to 9 (my child did this specifically to annoy me). Similarly, punishment responses varied from 1 (I would not punish my child at all) to 9 (I would punish my child a great deal). Sub-scales and overall scores consist of cumulative raw scores.

The individual Negative Attribution and Punishment sub-scales, and the overall measure demonstrate good internal consistency (coefficient $\propto$=0.83; Haskett *et al.*, 2006), satisfactory criterion validity with related parental attribution measures (correlation coefficient r=0.48, 0.44, 0.43; Azar, 1989, 1990; Haskett *et al.*, 2006) and good criterion validity, with both the overall and individual sub-scale scores on the CV differentiating effectively between abusive and non-abusive parents (Plotkin 1983; Haskett *et al.*, 2006).

To reflect the cultural differences between parents in the United Kingdom as opposed to the United States, the wording on four of the 18 vignettes of CV were slightly revised in this study: in vignettes 6 and 11 the words "restroom" and "bathroom" were replaced with "toilet"; in vignette 15 "mobile phone" was substituted for the original "cigarettes"; and in vignette 17 the reference to "your chores" was replaced with "your own jobs". Also, in this study, the CV was presented in written form rather than the standard oral presentation, where a researcher would verbally and visually present the measure displayed in the questionnaire.

Subsequent data analysis indicated that the revised version of the CV demonstrated excellent internal consistency ($\propto$=0.93, Negative Attribution sub-scale; $\propto$=0.86, Punishment sub-scale;

α=0.93, overall total scale) (Tables 2, 4 & 6, Appendix 7). Consistent with Haskett *et al.*'s (2006) critique of the CV, item analysis indicated that participants used the full range of potential responses (0-9) on all items. Similarly, item-by-item consistency with the overall or sub-scale total score indicated that only one item on the Negative Attribution sub-scale, six items on the Punishment sub-scale and six items on the overall scale were weakly correlated with the respective sub-scales (Tables 3, 5 & 7, Appendix 7). Given that the overall Cronbach alphas for the sub-scales and the overall total scale were greater than 0.7, no items were subsequently removed. Finally, scatter plot and subsequent correlation analysis replicated previous findings of a large positive correlation between the Negative Attribution and Punishment sub-scales (Spearman's Rank Order Correlation r=0.71, p=0.001; Azar, 1989, Haskett *et al.*, 2006; Plotkin, 1983) (Figure 1 and Table 8, Appendix 7).

2.3.3 Parent Attribution Test

In contrast to the Child Vignettes, the Parent Attribution Test ("PAT") (Bugental *et al.*, 1989) is devised as a measure of schema-based parental attributions (Bugental *et al.*, 1993, 1996, 1997). This self-report instrument explores respondents' perceptions of the balance of power (or control) in successful and unsuccessful adult-child interactions. To activate schematic cognitions, the PAT includes deliberately ambiguous descriptions of a successful adult-child interaction ("Suppose you took care of a neighbour's child one afternoon and the two of you had a really good time together") and an unsuccessful adult-child interaction ("Suppose you took care of a neighbour's child one afternoon and the two of you did not get along well"). Respondents are then asked to indicate how important various causes are viewed to be in accounting for each of these caregiver outcomes. The PAT short form includes eighteen items exploring the potential causes of caregiving outcomes: six items relate to the successful adult-child interactions and twelve items relate to the unsuccessful adult-child interactions. The items originally emerged from the factor analysis of the causes spontaneously given by parents for caregiver success or failure, and include such items as "The extent to which the child was stubborn and resisted your efforts" and "The extent to which you were not feeling well on that day". All items are rated on a 7 point Likert scale ranging from 1 (not at all important) to 7 (very important). PAT is devised to be opaque to desirable or undesirable responses and has been found to be resistant to self-presentation biases (Lovejoy *et al.*, 1997).

Factor analysis confirms four core scales or factors, each relating to three items of the PAT: i) causes related to, and controllable by, the adult (e.g. degree of adult effort); ii) causes related to, but uncontrollable by, the adult (e.g. adult ill health); iii) causes related to, and controllable by, the child (e.g. child resistance or stubbornness); and iv) causes related to, but

uncontrollable by, the child (e.g. child tiredness or ill health) (Lewis *et al.*, 1989). The four factor model is strongly supported in factor analysis (goodness-of-fit coefficient=0.91; Lewis *et al.*, 1989) and the four factors demonstrate good to satisfactory internal consistency (0.83, 0.41, 0.64 and 0.7 respectively; Lovejoy *et al.*, 1996).

Attributions related to *unsuccessful* caregiver interactions have been found to be the most predictive of caregivers' emotional and behavioural responses (Bradley & Peters, 1991; Bugental *et al.*, 1989; Bugental & Happaney, 2000, 2004; Martorell & Bugental, 2006). Similarly, responses related to *unsuccessful* caregiver interactions more closely reflect theoretical links to internal power related schema (Bugental *et al.*, 1993, 1996, 1997; Grusec, 1994) and attachment status (Grusec *et al.*, 1993). Research adopting the PAT as an outcome measure or fixed independent variable has, therefore, commonly focused on scores related to *unsuccessful* adult-child interactions (Bugental & Johnson, 2000). Accordingly, in this study, only scores related to *unsuccessful* caregiver interactions will be explored.

In the context of unsuccessful caregiver interaction, the PAT gives rise to two distinct composite scores: Adult Control over Failure ("ACF"), based on the addition of Factor 1 and Factor 2 (reverse scored); and Child Control over Failure ("CCF") based on the addition of Factor 3 and Factor 4 (reverse scored) (Bugental *et al.*, 1989). The CCF is typically subtracted from ACF to generate a total continuous score, referred to as Perceived Control over Failure ("PCF"). PCF provides a measure of respondents' perceived balance of power over failure. Individuals with low perceived balance of power would tend to attribute high control/power to the child and low control/power to the adult in the context of unsuccessful caregiver interactions.

ACF, CCF and PCF may be adopted either as continuous measures (Bradley & Peters, 1991; Bugental *et al.*, 1989; Martorell & Bugental, 2006; Mills, 1998) or as categorical measures based on the categorisation of respondents' scores relative to the (local) median (Bugental *et al.*, 1993; Bugental & Happaney, 2000, 2004). In the wider literature, continuous measures tend to be more commonly adopted where PAT is included as an outcome measure (Peters & Bradley, 1991; Bugental *et al.*, 1989; Martorell & Bugental, 2006; Mills, 1998). Accordingly, this form of scoring will be adopted here. The continuous PCF measure demonstrates moderate test-retest reliability (correlation coefficient r=0.63; Bugental *et al.*, 1989) and good construct validity as a predictor of abuse (Bradley & Peters, 1991; Bugental *et al.*, 1989), emotional reactivity (Martorell & Bugental, 2006) and coercive/derogating parenting behaviour (Mills, 1998). As the PCF reflects a composite measure of two interactive

constructs in the balance of power, analysis of internal consistency is not appropriate for this measure (Bugental, 2004).

2.3.4 Beck Depression Inventory

The Beck Depression Inventory ("BDI-II") (Beck, Steer & Brown, 1996) is a twenty-one item self-report measure devised to assess the severity of depression in clinical and normal populations. Items refer to key clinical symptoms of depression including: physical symptoms, such as changes in appetite or sleep; cognitive symptoms, such as a sense of guilt or worthlessness; and affective symptoms, such as irritability, agitation and sadness. While the BDI-II is not a stand-alone diagnostic tool, the items have been devised to mirror closely the diagnostic criteria of DSM-IV (Beck, Steer, Ball *et al.*, 1996). For each item, respondents are asked to choose one of four statements that most closely matches the way they have been feeling in the last two weeks. The four statements equate to a four point Likert scoring scale, based on the severity of each item, ranging from 0 to 3. Items 16 and 18, assessing sleep and appetite, offer two alternative statements for each statement relating to the presence of difficulties reflecting the bi-directional changes in sleep and appetite that may occur in a depressive episode (Beck, Steer & Brown, 1996), e.g. on item 16, individuals would be given a severity score of two for either "I sleep a lot more than usual" or "I sleep a lot less than usual". A total BDI-II score is derived from the cumulation of the raw scores on the 21 items ranging from 0 to 63. Higher total scores indicate more severe depressive presentations.

The BDI-II demonstrates good criterion validity with the Revised Hamilton Psychiatric Rating Scale for Depression (Pearson's coefficient r=0.71; Beck, Steer & Brown, 1996), excellent test-retest reliability (over a one week period) (Pearson's coefficient r=0.93; Beck, Steer & Brown, 1996) and excellent internal consistency (Cronbach's $\propto$=0.92; Beck, Steer, Ball *et al.*, 1996). In clinical contexts, BDI-II displays good criterion validity, differentiating effectively between the presence or absence of a depression diagnosis, and it is reported to be equivalently sensitive across cultures (Beck, Steer & Brown, 1996). Permission to reproduce the BDI-II in a modified format was granted by Pearson Assessment, with the proviso that original, purchased versions of the BDI-II would be used in scoring. This was sought so that the BDI-II could be included in the questionnaire in a format that was more compatible with the other measures.

2.3.5 Strength and Difficulties Questionnaire - Parental Version

The Strength and Difficulty Questionnaire – Parental Version ("SDQ-P") (Goodman, 1997) is a brief behavioural screening measure for children between three and sixteen years of age. The SDQ-P consists of twenty-five items referring to positive and negative attributes of children's behaviour. These items are divided into five sub-scales each relating to five items: emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems and prosocial behaviour. A Total Difficulties ("TD") score is generated from the sum of the first four scales, while the fifth scale measures children's positive attributes. Items are scored on a three point Likert scale from 0 to 2 with TD scores ranging from 0 to 40. Higher TD scores reflect greater levels of emotional and behavioural difficulties.

For the purposes of this study, the SDQ-P measure included all items from the SDQ-P 4-16 and three items from SDQ-P 3-4, the wording of the latter having been slightly modified to reflect the developmental differences in conduct, attention and activity levels associated with this younger age group. Irrelevant items were then removed at the data-analysis stage, based on the age of the index child, e.g. if the parent completed the SDQ-P for a five-year-old child, the three reworded items from the SDQ-P 3-4 were not included in the final data analysis. Participants were asked to complete the measure if they had a child between the age of three and sixteen. Where mothers had more than one child in this age bracket, mothers were asked to complete the measure for the child whose behaviour they found most concerning or challenging.

The SDQ-P is widely adopted in clinical and research settings. It demonstrates good criterion validity with the Child Behaviour Checklist and Rutter Behaviour Scales (Goodman, 1997; Goodman & Scott, 1999). The SDQ-P and the SDQ-P sub-scales demonstrate good internal consistency (mean Cronbach $\propto$=0.73) and modest test-retest reliability (after four - six months) (mean Pearson's coefficient r=0.62; Goodman, 2001). Clinically, the SDQ-P and the SDQ-P sub-scales display good criterion validity, differentiating psychiatric cases from non-psychiatric cases (Goodman, 1997; Goodman & Scott, 1999) and accurately predicting independently diagnosed psychiatric disorders (Goodman, 2001). The criterion validity of SDQ-P is similarly robust across different cultures (Goodman *et al.*, 2000).

In addition to the five core measures included in the questionnaire for index parents (Appendix 5) and control parents, the questionnaire for control parents included two further measures to screen for the presence of Cluster B PDs and more severe mental health difficulties (Appendix 6).

2.3.6 The Structured Clinical Interview for DSM-IV-TR Axis II Personality Disorders – Screening Questionnaire

The Structured Clinical Interview for DSM-IV-TR Axis II Personality Disorders ("SCID-II") – Screening Questionnaire ("SCID-II-PQ") (First *et al.*, 1997a) is based on the DSM-IV classification system and is devised to screen for the presence of PD as a preliminary step in the diagnosis of a DSM-IV PD. As a diagnostic tool, the SCID-II-PQ is used as a screening tool to reduce the time commitment required in completing the subsequent diagnostic interview: positive responses on the SCID-II-PQ guide clinical interviewers to relevant items in the diagnostic interview; clinicians need focus only on items screened positive on the questionnaire. Within research settings, the SCID-II-PQ is also widely adopted as a screening tool to identify participants with possible PDs, allowing the selective follow-up of potential cases for further diagnostic interviewing (Singleton *et al.*, 1998, 2000).

The SCID-II-PQ is a 119 item self-report measure that systematically covers each of the ten core PDs included in DSM-IV[10] and two additional PDs, passive-aggressive PD and depressive PD, currently classified in DSM-IV under 'Personality Disorder Not Otherwise Specified ("NOS")'. Diagnostic scales range from 7 items (Avoidant PD) to 15 items (BPD). The 119 items on the SCID-II-PQ relate directly to the 119 items covered in the SCID-II diagnostic interview. In completing the questionnaire, respondents are asked to respond to questions in relation to "The kind of person they generally are". Items may be scored as Yes "Generally applies", No "Does not apply" or "Not understood/not sure". A score of 1 is given to each item with a 'Yes' response. Items left blank or with a 'No' response are scored 0. Individual items may either relate directly to one of the diagnostic criteria for a DSM-IV PD, or may be part of a cluster of two or more items, which in turn relate to a single diagnostic criterion. For example, in the diagnostic items relating to BPD, a positive response to item 90, "Have you often become frantic when you thought that someone you really cared about was going to leave you?", would be sufficient to meet the diagnostic criteria for "frantic efforts to avoid real or imagined abandonment", whereas a positive response to both item 97 and item 98, "Have you ever tried to hurt or kill yourself or threatened to do so?" and "Have you ever cut, burned, or scratched yourself on purpose", would be required to meet the BPD diagnostic criteria for "recurrent suicidal behaviour, gestures, or threats, or self-mutilating behaviour".

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[10] According to DSM-IV-TR, ten core personality disorders are recognised. These are further subdivided into three clusters:
Cluster A (odd or eccentric disorders): Paranoid, schizoid & schizotypal personality disorders;
Cluster B (dramatic, emotional or erratic disorders): Antisocial, borderline, histrionic and narcissistic personality disorders; and
Cluster C (anxious or fearful disorders): Avoidant, dependent and obsessive personality disorders.

The algorithms for scoring the twelve diagnostic scales are based on the way items map onto diagnostic criteria in the SCID-II (Table 9, Appendix 8). However, a number of the items on the SCID-II are based on observations during the interview, such as the observation of 'odd thinking and speech' in assessing schizotypal PD. These items are omitted from the questionnaire and the algorithms for diagnosis are adjusted accordingly (Ekselius *et al.*, 1994b) (Table 9, Appendix 8). The clinical cut-offs for individual PD diagnoses on the SCID-II-PQ include one more criterion per diagnosis than the equivalent cut-offs for SCID-II (Bodlund *et al.*, 1993; Ekselius *et al.*, 1994b), e.g. a diagnosis of avoidant PD on the SCID-II requires individuals to meet four of the seven diagnostic criteria, whereas the equivalent cut-off on the SCID-II-PQ requires five diagnostic criteria to be met. In the case of Schizotypal PD, where the diagnostic criteria relating to clinical observations are excluded from the questionnaire, a lower diagnostic threshold is adopted (Table 9, Appendix 8). The assessment of ASPD on the SCID-II-PQ focuses on assessing the criteria for conduct disorder in youth. To meet the diagnostic criteria for ASPD on the diagnostic interview, SCID-II, individuals must meet the criteria for conduct disorder in youth and the diagnostic criteria for antisocial behaviour in adulthood. The SCID-II-PQ, however, explores only the former of these. Scores above the clinical cut-off on youth conduct disorder scale indicate the potential presence of ASPD. As with the other PDs, the screening cut-off for youth conduct disorder includes one more criterion per diagnosis than the equivalent cut-off on the SCID-II.

The adjusted clinical cut-offs for the SCID-II-PQ display good concurrent validity with the SCID-II (overall kappa for agreement = 0.78; Ekselius *et al.*, 1994b) and low to moderate specificity or positive predictive value (0.35-0.80, except Schizoid; Ball *et al.*, 2001). The relatively high false-positive rate of the SCID-II-PQ means it is not typically recommended as a stand-alone diagnostic tool: most items on the SCID-II-PQ have a threshold for positive response considerably lower that the equivalent diagnostic criteria on the SCID-II (First *et al.*, 1997b). However, the SCID-II-PQ is highly effective as a screen, demonstrating excellent negative predictive value with a very low rate of false-negative (negative predictive value > 90%; Jacobsen *et al.*, 1995). In line with previous clinically based studies in the United Kingdom, in this study the wording of five items of the SCID-II-PQ was adjusted to

avoid possible ambiguities in meaning[11]. The modified UK version of the SCID-II-PQ displays good internal consistency (Cronbach $\propto$=0.79-0.81) and maintains excellent negative predictive validity (> 90%; Ullrich *et al.*, 2008). Permission was granted by American Psychiatric Publishing Inc. to reproduce the SCID-II within the questionnaire with the proviso that original, purchased versions of the SCID-II-PQ would be used in scoring.

Any participant scoring above the clinical cut-off criteria for one of the Cluster B PDs, that is for Borderline, Anti-social, Histrionic or Narcissistic PD, was subsequently excluded from the study. The diagnostic scale scores for the other eight PDs covered on the SCID-II-PQ were also calculated, and any participant scoring above the clinical cut-off on these diagnostic scales was noted to have possible personality difficulties consistent with PD. However, the possible presence of other Cluster A or C PDs in a control participant was not considered to necessitate the exclusion of the participant from the study.

2.3.7 Clinical Outcomes in Routine Evaluation- Outcome Measure

The Clinical Outcomes in Routine Evaluation – Outcome Measure ("CORE-OM") is a 34 item, self-report measure of current psychological global distress. The CORE-OM includes four core dimensions: subjective well-being; problems/symptoms; life functioning; and risk/ harm. All items are rated on a 5 point Likert scale ranging from 'not at all' to 'most of the time'. Scores on each item ranged in severity from 0-4, with eight items being reverse scored. Items are summed to give individual sub-scale scores for each of the core dimensions and a total score. Only the total score will be adopted for the purposes of the study.

The total score provides an indication of the level of current psychological global distress (from 'healthy' to 'severe'). Four bands of scores above the clinical cut-off have been established as representative of low level, mild, moderate and severe levels of distress (Barkham *et al.*, 2001). Higher total scores indicate more severe distress. A score of below 85 (Total mean score = 2.5) on the CORE-OM is considered to be consistent with mild to moderate mental health problems (Barkham *et al.*, 2005, 2007). Any participant scoring

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[11] To clarify the intended meaning, the following items were rephrased:
Item 18, originally phrased as "Do you or other people feel that you are so devoted to work (or school) that you have no time left for anyone else or just having fun?", was rephrased as "Throughout your life have you or other people felt that you are so devoted to work (or school) that you have no time left for anyone else or just having fun?"
Item 21, originally phrased "Is it hard for you to let other people help you unless they agree to do things exactly the way you want?", was rephrased as "Is it hard for you to let other people help you if they don't agree to do things exactly the way you want?.
Item 60, 64 and 65, originally introduced with the phrasing "Is it NOT important to you...", "Does it NOT matter..." and " Do you find....", were rephrased with "Are you the kind of person who doesn't think it is important...", "Are you the kind of person who doesn't care..." and " Are you the sort of person who finds...".

above this clinical cut-off (Total score= 85; Total mean score = 2.5) was subsequently excluded from the study.

The CORE-OM displays good concurrent validity with the Clinical Interview Schedule–Revised (Pearson r= 0.77; Connell *et al.*, 2007), the General Health Questionnaire-28 and the Symptom Checklist-90-Revised (Evans *et al.*, 2002), good internal consistency (Cronbach $\propto$=0.75-0.95), test-retest reliability (Pearson's r=0.75-0.95; Evans *et al.*, 2002) and demonstrates good criterion validity, distinguishing effectively clinical and non-clinical samples (Evans *et al.*, 2002).

2.4 Ethical Approval

Ethical application was submitted to Lothian Research Ethics Committee 1 ("LREC1") in August 2009; approval was finally granted in December 2009 (Appendix 9). A detailed discussion of ethical issues that arose in relation to the study was conducted within the application and at the subsequent Ethics Committee meetings.

Individuals with BPD represent a particularly vulnerable research population (Dew, 2007). Ethical concerns related to this population were, therefore, critical to the NHS ethical application. Equally, however, the poverty of research relating to individuals with BPD and to parents with BPD is itself a source of ethical concern (Adshead *et al.*, 2004; British Psychology Society, 2006; National Institute for Mental Health in England, 2003; NICE, 2009; Parental Mental Health and Child Welfare Network, 2009; SCIE, 2009). Research in this area therefore has to find an acceptable balance between these complex ethical issues. The steps taken to reduce the ethical risks posed to this population, while conserving the validity of the core research design, are central to the methodology that follows in section 2.6. Two core ethical concerns raised by the study are also considered in more detail in 2.4.1 to 2.4.2.

In light of the difficulties encountered in previous similar studies in relation to the recruitment of parents with a diagnosis of BPD (Hobson, 2009; Macfie, 2009), the recruitment strategy for parents with a confirmed diagnosis of BPD included NHS and non-NHS sites across Scotland with recruitment taking place over a one year period. Initial ethical approval to include all relevant recruitment sites was secured from LREC1. Research and Development (R&D) approval for the recruitment of potential index participants was then sought from each of the individual NHS boards and the specific recruitment sites within each board. As part of this process, an application to the NHS Research Scotland Coordinating Centre (NRSCC) to secure approval to approach multiple sites within NHS

Scotland was also sought. Multi-site R&D approval and individual R&D approval was granted for all potential sites. As the research methodology for NHS based index participants also involved potentially accessing patients' case notes to confirm information relating to their diagnoses, further approval was sought from the relevant Caldicott guardians at each NHS site to access and record personal diagnostic information. Again, approval for this process was granted by all relevant Caldicott guardians.

For non-NHS sites, additional ethical approval was sought from the relevant leads at each site. Prior to consenting to their service being involved in the study, all non-NHS sites were provided with copies of the NHS ethical application, the paperwork relating to LREC1 approval of the study and the participants' materials included in the study. Subsequent to this, telephone or face-to-face consultations were conducted with each lead to discuss the potential ethical issues raised by the study and the steps that would be taken to address these.

As similar difficulties in recruiting parents with mild to moderate mental health difficulties were not anticipated, recruitment for this population was limited to two NHS sites.

2.4.1 Consent

The core features of BPD, particularly fear of real or imagined abandonment, impulsivity and the urge to self-harm, may place borderline individuals at risk of consenting to research that is not objectively in their best interests (Dew, 2007). Where individuals may be considered vulnerable as a result of their psychiatric diagnosis, Tee & Lathlean (2004) recommend ensuring the democracy and transparency of the research process. Reflecting these recommendations, the information sheets for index parents were devised and piloted in consultation with individuals with a diagnosis of BPD to establish the clarity of information and the degree of equality inherent in the process of consent. This consultation process highlighted three core considerations:

i)Ensuring the information provided is particularly clear and comprehensive to counter the natural mistrust and reservation that borderline individuals might hold in relation to the intentions of others. Similarly, the consultation indicated the importance of ensuring that the process of consent provided the participants with sufficient time to discuss the research in detail and to ask questions of the clinician or the researcher team.

ii) Offering additional options, where possible, in the consent process to enhance participants' sense of control over the process (Appendix 16 &17). Early experiences of

uncontrollable childhood trauma may heighten borderline individuals' need for control in interpersonal contexts (Bender & Skodol, 2007).

iii) Providing details of alternative anonymous sources of support that may be accessed if the study raises any concerns for participants. Given the interpersonal difficulties experienced by individuals with BPD, these individuals may prefer to discuss their concerns anonymously with someone who was not directly involved in their care.

In addition to these concerns, it was recognised that, for parents with BPD or other mental health difficulties, the invitation to participate in a study exploring parenting might be perceived as a sign that their current mental heath or personality difficulties could have a negative impact on their parenting skills or their child. The wording on the information sheets for participants (Appendices 10, 11 & 12) and on the clinician information sheets was carefully considered in consultation with a parent with mental health difficulties to reduce the likelihood that the study would be interpreted in this manner.

The researcher also attended team meetings at each potential NHS site to discuss the nature of the study, consider the ethical issues involved, and highlight the importance of introducing the study sensitively, to avoid stigmatising parents. At index parent recruitment sites, the researcher also discussed the possibility that index parents may be particularly keen to gain further information about the study. Clinicians were reminded that participants would be able to contact the researcher to access additional information about the study, such as viewing copies of the letter to their GP or gaining details on exactly how the diagnostic data extracted from files would be used. Seven potential index participants e-mailed the researcher to request further information on the study, four of whom subsequently participated in the study.

In light of the vulnerability of individuals with BPD and the potential vulnerability of parents with mild to moderate mental health difficulties, all participants recruited within the NHS were initially approached by their clinician. All clinicians were provided with a copy of the clinician information sheet so that they would be well informed about the potential risks or disadvantages of the study (Appendices 13 & 14). As outlined above, the researcher also attended team meetings at each recruitment site, to ensure clinicians were clear on the study protocol and the process of consent. Drawing on the recommendations of Dew (2007), it was decided not to seek final consent directly from someone involved in the participants' care, and participants were offered further time outside of the clinic setting before deciding whether or not to take part. In the case of parents with mild to moderate mental health

difficulties, completion of the questionnaire acted as confirmation of consent. For index parents, a consent form was completed in the client's own home following a comprehensive process of ensuring informed consent. The GPs of all participants were informed of their clients' potential participation in the study (Appendices 18 & 19).

In the case of index parents recruited outwith the NHS, the process of consent depended on the structure of the organisation, service or network. Where the recruitment site offered key worker or facilitator support to potential participants, such as the BPD Carer Group (Lothian), the BPD Support Group (Moray) and Health in Mind (Lothian), the consent procedure outlined above was followed and facilitators/key workers were provided with copies of the key worker/facilitator information sheet (Appendix 15). Where sites were user led or virtual networks, such as the Scottish Personality Disorder Network, BPD Social Group (Lothian), BPD Peer Network (Scotland), Edspace (Lothian) and Midspace (Midlothian), participants were initially approached via electronic or concrete posters, which introduced the study and asked interested participants to contact the research team for further information. Given the potentially sensitive nature of the research topic, the design of advertisements for the study was also developed in consultation with individuals with a diagnosis of BPD (Appendix 22).

Interested participants were offered further information by e-mail or phone and, in all cases, a number of e-mails were exchanged during the process of establishing informed consent. Typical queries related to the confidentiality of information, the nature of information provided to other professionals involved in their care, the content of letters sent to named clinicians and the type of diagnostic information that would be collected. In the case of the Scottish Personality Disorder Network, the researcher presented a recruitment and research poster at the four annual conferences across Scotland in 2010. The researcher sought to discuss the study in detail with any interested participants. In all e-mail, face-to-face and phone discussions with potential participants, the researcher encouraged potential participants to take their time to discuss the study with those involved in their care and/or with the independent contact for the study.

2.4.2 Feedback

The question of whether it would be appropriate to feed back the individual outcomes of the questionnaire to participants and/or to those involved in their care was given careful consideration.

In the case of index parents, the consultation highlighted the degree of mistrust that borderline individuals may hold in relation to health professionals. This is consistent with the wider literature, which highlights the difficulties borderline individuals may experience in their relationships with such professionals (Fallon, 2003; Nehl, 1999): health professionals often perceive clients as manipulative, undeserving of care or challenging, while the borderline individual often feels stigmatised. Research indicates that the perceived stigma felt by individuals with BPD is reflective of the objective reports from health professionals (Markham & Trower, 2003; Webb & McMurran, 2007). Bearing this in mind, giving feedback of individuals' responses to the professionals involved in their care was considered to be a significant potential barrier to recruitment. The participants themselves were, however, offered the opportunity to receive individual and overall feedback on the study's findings (Appendices 16 & 17).

The question of feedback was also important for the control group. Research indicates that, where individuals are not seeking a diagnosis of PD, the label may be perceived as derogatory, with clients describing a negative stigma attached to the diagnosis (Haigh 2002; Ramon *et al.*, 2001). The literature also highlights concerns over whether the label may, for some individuals, act as a barrier to accessing appropriate treatment and support, rather than a facilitator. These considerations raised serious ethical concerns for the study as to the benefits of sharing information relating to personality disorders with control group participants. In addition, the questionable validity of diagnostic information gleaned from the SCID-II-PQ measure, due to its relatively high rate of false positives, raised further questions as to the benefits of feeding back individual responses. For these reasons, the data collected in relation to control parents was fully anonymised to the researcher. No personally identifiable data was included in the questionnaires; completed and returned questionnaires acted as an indicator of consent.

Nevertheless, it was recognised that the study could generate issues for participants, for which it was important that support should be available, where appropriate from those involved in their care. An element of feedback to the former was therefore considered advisable. For example, the completion of questionnaires relating to parenting, child behaviour and mental health could potentially raise concerns for participants about their own or their child's well-being. Participants were, therefore, provided with national and local information relating to parent, child and family based support available to them (Appendix 21). The participant information sheets directed participants to this information and encouraged them to discuss any concerns with the research team or their clinicians/key workers/facilitators. In addition, a copy of the child, parent and family information sheet

(Appendix 21) was provided to clinicians/key workers/facilitators and to the independent research contact. The researcher also gave notice of the study to the local Child and Adolescent Mental Health Services and Adult Mental Health Services, so that they might be aware of the potential increase in referrals that could result from the study. In the case of index parents, the researcher ensured that clinicians and services were aware of the inclusion of a PD screening measure in the questionnaire and were prepared to offer appropriate support to participants if this measure led them to question whether any additional mental health problems might be relevant to their presentation.

2.5 Recruitment Sites

2.5.1 NHS-based Recruitment Sites

For index parents within the NHS, the following NHS Boards were approached: NHS Lothian, NHS Fife (Severe and Enduring Service), NHS Grampian, NHS Tayside, NHS Forth Valley (Solution Focused BPD therapeutic group) and NHS Greater Glasgow & Clyde (Glasgow Addiction Service and 218). After discussions with the managers and clinicians at the recruitment sites for NHS Fife, NHS Forth Valley and NHS Greater Glasgow & Clyde, these health boards were excluded from the final recruitment phase. Exclusion at this stage was connected with the long-term absence of the service manager (Glasgow Addiction Service, NHS Greater Glasgow & Clyde), the absence of potential participants meeting inclusion criteria (Solution Focused BPD Therapeutic Group, NHS Forth Valley and 218, NHS Greater Glasgow & Clyde), and excessive research demands being placed on clients due to recent or current participation in a similar research study (Severe and Enduring Service, NHS Fife and Solution Focused BPD Therapeutic Group, Forth Valley). Twenty-two recruitment sites in NHS Lothian, five recruitment sites in NHS Tayside and one recruitment site in NHS Grampian were included in the study.

For control parents, only NHS Fife and NHS Lothian were approached in relation to recruitment. Both NHS trusts subsequently engaged in the recruitment phase of the study. Three recruitment sites in NHS Lothian and five recruitment sites in NHS Fife were included in the study. The NHS based recruitment sites that ultimately engaged in recruitment for index and control parents are set out in Tables 10 and 11 respectively.

For both participant populations, the researcher initially attended team meetings at each recruitment site to introduce the study. Participant packs were then left with individual clinicians or teams. Most sites were revisited at least once, with some sites being revisited up to three times, during the period of recruitment (February to December 2010). Each site had

an identified representative for the study. This individual was provided with monthly e-mail reminders, which were then circulated to the wider team and raised at the team meetings. Posters outlining the key inclusion criteria (Appendix 23) and describing frequently asked questions were also displayed in staff areas (Appendix 24).

2.5.2 Recruitment Sites outside the NHS

The recruitment of index parents also included ten recruitment sites outwith the NHS, six based within Lothian, one based in Grampian and two based nationally. All non-NHS recruitment sites were based within Scotland and offered face-to-face (four sites), internet based (three sites) or both types (three sites) of mental health support. Six of the recruitment sites offered support specifically to individuals with PDs or BPD; one site offered support to individuals with a history of childhood sexual abuse; and three sites offered more generic mental health support. The inclusion of non-NHS recruitment sites was based on two considerations: i) the difficulties experienced by previous studies in recruiting participants from this vulnerable population (Hobson, 2009; Macfie, 2009); and ii) the potential barriers to recruitment that might emerge from the often difficult relationships between health professionals and individuals with BPD (Nehls, 1999).

As in NHS based recruitment, each site had an identified point of contact for the circulation of reminder e-mails. Where appropriate (Health in Mind, BPD Carer Group, Moray BPD Support Group), the researcher attended meetings with the services, and the services were provided with participant packs, posters describing the inclusion criteria and frequently asked questions. Where this recruitment approach could not be adopted (Edspace, Midspace, SPDN, BPD Peer Network, CAPS advocacy BPD project and BPD Social Group (Lothian)), posters, internet adverts or e-bulletins (Appendix 22) were used to inform potential participants of the study; further information and participant packs could then be requested from the researcher. The non-NHS based recruitment sites that ultimately engaged in recruitment for index parents are set out in Table 12.

Table 10: NHS based Recruitment Sites for Index Parents

NHS Trust	Recruitment Site
NHS Lothian Primary Care Trust	Edinburgh based Community Mental Health Teams (NW Edinburgh, NE Edinburgh, SC Edinburgh and SW Edinburgh Teams)
	East Lothian based Community Mental Health Teams (North Team, East and West Teams)
	Midlothian based Community Mental Health Teams (East, West and Central Teams)
	East Lothian Department of Clinical Psychology (Edenhall Hospital)
	Midlothian Department of Clinical Psychology (Roslynlee Hospital)
	Central Edinburgh Department of Clinical Psychology (Royal Edinburgh Hospital)
	Cullen Centre (Specialist psychotherapy service for eating disorders and personality difficulties, Royal Edinburgh Hospital)
	Edinburgh Traumatic Stress Centre (Specialist psychotherapy service for individuals experiencing psychological difficulties subsequent to traumatic events, Royal Edinburgh Hospital)
	Self-Harm Project (Royal Edinburgh Hospital)
	Psychotherapy Department
	Department of Psychiatry (Central Edinburgh, Royal Edinburgh Hospital)
	Department of Psychiatry (East Lothian, Herdmanflat Hospital)
	Clinical Psychotherapy and Psychotherapy Service, Edinburgh Homeless Practice
	Child Sexual Abuse Team (Royal Edinburgh Hospital)
	Perinatal unit - Mental health Mother and Baby unit (St John's Hospital, West Lothian)
NHS Tayside	Community Mental Health Teams (Dundee Team 1, 2, 3 and 4)
	Dundee Department of Clinical Psychology (Severe & Enduring Mental Health)
NHS Grampian	Grampian Specialist Psychotherapy Service (Garden Villa)

Table 11: NHS based Recruitment Sites for Control Parents

NHS Trust	Recruitment Site
NHS Lothian Primary Care Trust	East Lothian Department of Clinical Psychology (Edenhall Hospital)
	East Lothian, Psychological Therapies Team (Herdmanflat Hospital)
	Central Edinburgh Department of Clinical Psychology (Royal Edinburgh Hospital)
Dunfermline and West Fife Community Health Partnership	Fife Adult Clinical Psychology Service (Glenrothes)
	Fife Adult Clinical Psychology Service (Kirkcaldy & Levenmouth)
	Fife Adult Clinical Psychology Service (NE Fife)
	Fife Adult Clinical Psychology Service (Dunfermline & West Fife
	Fife Adult Clinical Psychology Service (Steps Forward Programme- Dunfermline & West Fife)

Table 12: Non-NHS based Recruitment Sites for Index Parents

Location	Recruitment Site
Lothian	Health In Mind (Beyond Trauma Group, Pathways & Oasis Project) Practitioner led individual and group support to individuals with a history of childhood sexual abuse.
	Borderline Personality Disorder Carer Group: Facilitator led group for carers of individuals with BPD.
	BPD Social Group: User led support group for individuals with BPD
	Edspace: Internet based information resource for individuals or carers of individuals with mental health difficulties in Edinburgh.
	Midspace: Internet based information resource for individuals or carers of individuals with mental health difficulties in Midlothian.
	CAPS advocacy BPD project Facilitator led project to improve advocacy for individuals with BPD.
Grampian	Moray BPD Support Group: Facilitator led user support group.
Highland	Highland User Group: E-bulletin, internet and individual or group support
National	Scottish Personality Disorder Network (SPDN) Offers 4 annual research conferences and website based information on personality disorders for users, carers and professionals.
	BPD Peer Network: Internet based user led support network.

2.6 Procedure

2.6.1 Procedure for Index and Control Participants Recruited within the NHS

Clinicians at participating sites were responsible for identifying clients on their caseloads who met the inclusion criteria. Any individuals meeting the exclusion criteria were excluded by clinicians at this stage. Potential participants were then approached by their clinician at a routine clinic appointment. Interested parents were provided with a participant pack, which included the relevant version of the participant information sheet (Appendices 10 and 12), information on local services for children, parents and families (Appendix 21) and the relevant version of the questionnaire (Appendices 5 and 6). In the case of index parents, participant packs also included the consent form for index parents recruited within the NHS (Appendix 16). A stamped addressed envelope was included, in which the completed questionnaire and, in the case of index parents, the consent form, could be returned to the researcher. Completed questionnaires and consent forms could also be returned to the clinician, who would forward them to the researcher. At this stage, the clinician also completed the back of the clinician information sheet and forwarded it to the researcher informing her of the potential participant's name, date of birth and details of their GP (Appendices 13 and 14). In the case of index parents, once the clinician information sheet and participant consent form had been returned, a letter was sent to their GP informing the latter of their client's involvement in the study (Appendix 18).

Details of the participant's name, address and date of birth were used to identify and access the mental health case notes of index parents to confirm the details of their PD: when the diagnosis was given; the diagnostic system (DSM-IV/ICD-10); and the professional background of the individual providing the diagnosis. The details of these aspects of the diagnosis were collected to ensure that potentially significant variables, such as the time since diagnosis, the process of diagnosis and the diagnostic system, could be taken into account in interpreting the results. Where index parents recruited within the NHS had reservations about the researcher accessing their case notes to confirm their diagnosis, parents were offered the alternative option of providing a named person to confirm their diagnosis, as for index parents recruited outwith the NHS (see 2.6.2 below); the potential participant was then sent copies of the participant information sheet and consent form used for non-NHS index parents. Two parents recruited within the NHS requested this option.

For control parents, once the clinician information sheet had been received, a letter was sent to the participant's GP informing them of their client's potential involvement in the study

(Appendix 19). As questionnaires were returned separately and did not provide any identifiable information, it was not possible with this research population to confirm whether particular potential participants subsequently engaged in the study (for a diagram of the protocol for index and control participants recruited within the NHS, see Figures 3 and 4)

2.6.2 Procedure for Index Participants Recruited outwith the NHS

Where possible the procedure for participants recruited outwith the NHS mirrored the procedure for NHS index parents. Where facilitators/key-workers were based within the recruitment site, these individuals were asked to identify potential participants within the service who met the inclusion criteria. Any participants meeting the exclusion criteria were excluded at this stage. Potential participants were then approached by their facilitator/key-worker and any parent who was interested was provided with a participant pack including the non-NHS version of the participant information sheet for index parents (Appendix 11), information on local services for children, parents and families (Appendix 21), the consent form (Appendix 17) and the index parent's questionnaire (Appendix 5).

Where recruitment sites were user led, internet based or conference based, posters, internet adverts and e-bulletins were used to introduce the study and provide details of how parents interested in participating could gain further information (Appendix 22). Those interested were e-mailed further information about the study and encouraged to ask further questions and discuss the study with someone involved in their care and/or the independent research contact before deciding whether or not to take part. Potential participants were then sent a copy of the participant information pack for non-NHS index parents (Appendices 5, 11, 17 and 21).

As for NHS recruitment, participant packs included a stamped addressed envelope to allow participants to return consent forms and questionnaires to the researcher. As non-NHS index parents were not necessarily engaged with NHS based mental health services at the time of the study, non-NHS index parents were asked to provide details of a professional involved in their care who would be able to confirm the details of their diagnosis (Appendix 15). On receipt of the non-NHS index participant consent form, the lead researcher sent a letter to the participant's named person informing them of their client's involvement in the study and, with the client's consent, asked them to confirm the details of the participant's diagnosis: when the diagnosis was given; the diagnostic system (DSM-IV/ICD-10); and the professional background of the individual providing the diagnosis. In all cases, the named individual was an NHS professional (for a diagram of the protocol for index participants recruited outwith the NHS, see Figure 5).

Clinicians asked to identify potential participants on their current caseload:

i) Individuals whose primary presenting problem is depression &/or anxiety

ii) Individuals scoring below 2.5 on the CORE-OM

iii)Individuals who have a parental role with one or more children between 3 and 16 years of age.

Any individuals meeting the exclusion criteria would be excluded by clinicians at this stage.

↓

Clinicians with potential participants on their case load would be provided with a clinician information sheet for control parents, information on local services for children, parents and families and participant information packs (participant information sheet, information on local services for children, parents and families, questionnaire for control parents and stamped addressed envelope for return of questionnaire to the lead researcher)

↓

Clinicians would then be asked to approach potential participants prior to or following a routine clinic appointment to explain the nature of the study, discuss any questions and explore whether the individual might wish to be involved.

Potential participants interested in participating in the study would then be given a copy of the information sheet and questionnaire for parents with MHP. Potential participants would also be provided with a stamped addressed envelope to return the completed questionnaire to the researcher. Participants who chose to participate would be asked to complete the questionnaire. Questionnaires could also be returned to the clinician who would be asked to forward them to the lead researcher.

Clinician would also be asked to complete a form providing the details of the potential participant and their GP. Clinicians would be asked to forward this information to the researcher in a stamped addressed envelope.

↓

On receipt of the clinician completed form, the lead researcher would send a copy of the GP letter for control parents.

↓

The quantitative data of questionnaires returned to the lead researcher would be inputted in SPSS. Parents scoring above the clinical cut-off on the SCID-II-PQ or the CORE-OM for Cluster B personality disorder or severe mental health difficulties, respectively, would be excluded from the final data for control parents. Parents included in the final data analysis would be closely matched in terms of age range of children, gender of children, gender and age of parent and the absence or presence of special educational needs or physical or mental health problems in their children.

↓

Descriptive and statistical tests would be conducted using this software package to explore the key research question. Parents with MHP would not be provided be specific feedback on their scores but would be provided with a summary of the study's findings if requested.

Figure 2: Protocol for Control Parents

Clinicians in participating services asked to identify potential participants on their current caseload:

i)Individuals who have a confirmed diagnosis of a Cluster B personality disorders or the equivalent cluster of symptoms as categorised by ICD-10

ii)Individual who have a parental role with one or more children between 3 and 16 years of age.

Any individuals meeting the exclusion criteria would be excluded by clinicians at this stage.

Clinicians with potential participants on their case load would be provided with a clinician information sheet for parents with BPD, information on local services for children, parents and families and participant information packs (index participants information sheet, information on local services for children, parents and families, consent form & questionnaire for NHS index parents and stamped addressed envelope for return of questionnaire to the lead researcher)

Clinicians would then be asked to approach potential participants prior to or following a routine clinic appointment to explain the nature of the study, discuss any questions and explore whether the individual might wish to be involved. Potential participants interested in participating in the study would then be given a copy of the participant information sheet, consent form and questionnaire for parents with BPD. Potential participants would also be provided with a stamped addressed envelope to return the completed consent forms & questionnaires to the researcher. Participant who choose to participate in the study would be asked to complete the consent form & questionnaires and return them to the lead researcher. Questionnaires & consent forms could also be returned to their clinician. The clinicians would then forward them to the lead researcher. Clinician would also be asked to complete a form providing the details of the participant and their GP. Clinicians would be asked to forward this information to the researcher in a stamped addressed envelope.

On receipt of the clinician completed form and the NHS index participant's consent form, the lead researcher would:

i) Send a copy of the GP letter for index parents to participants' GPs.

On receipt of the participant's signed consent form, the lead researcher would:

ii) Access the case notes of parents with PD to confirm details of their diagnostic status (including the name of the diagnosis and who diagnosed it)

The quantitative data of questionnaires returned to the lead researcher would be inputted in SPSS. Descriptive and statistical tests would be conducted using this software package to explore the key research questions. Parents with PD would be provided with a summary of their individual responses on the questionnaire and/or the study's findings if requested.

Figure 3: Protocol for Parents with BPD Recruited within the NHS

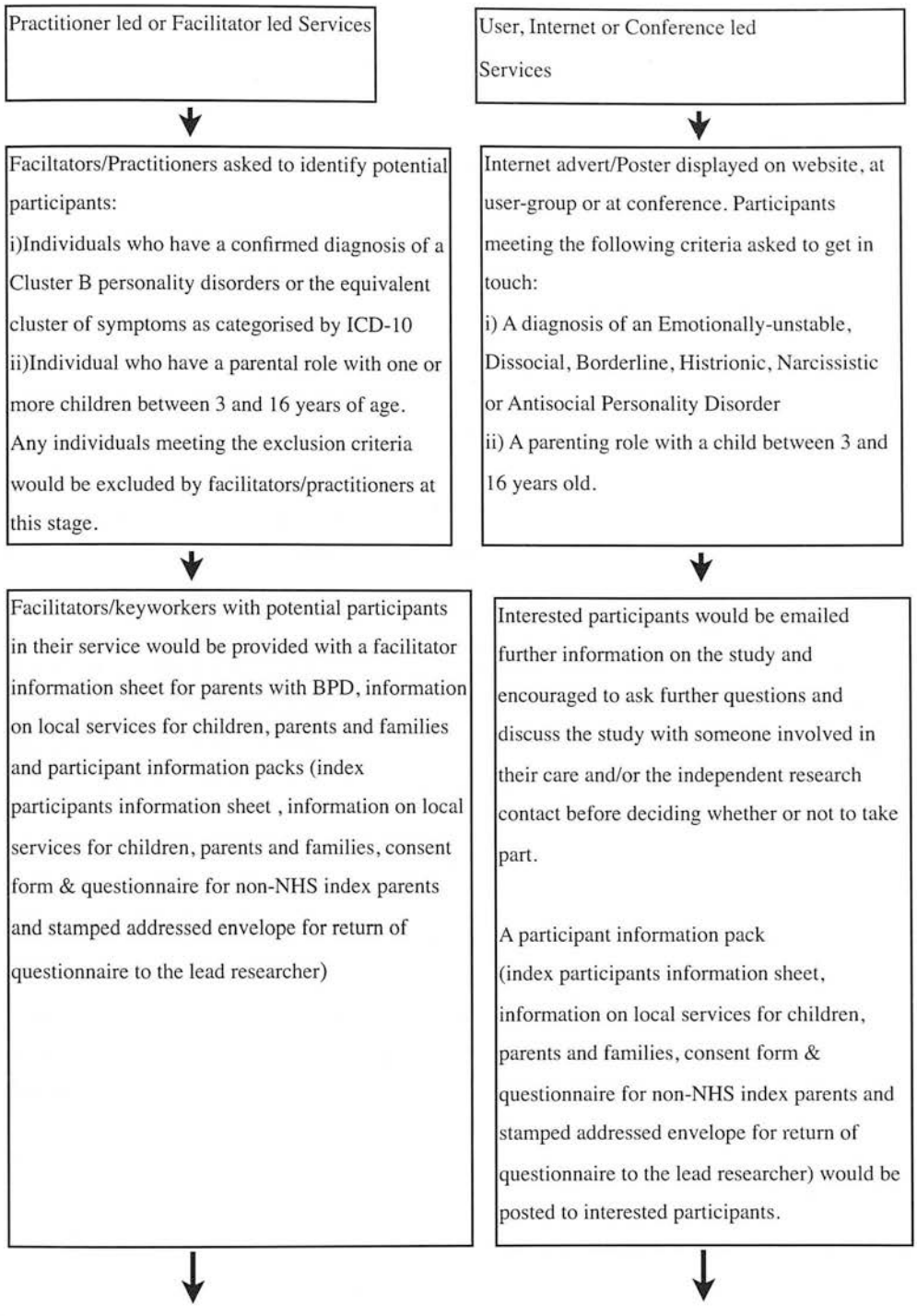

Figure 4: Protocol for Parents with BPD Recruited out with the NHS

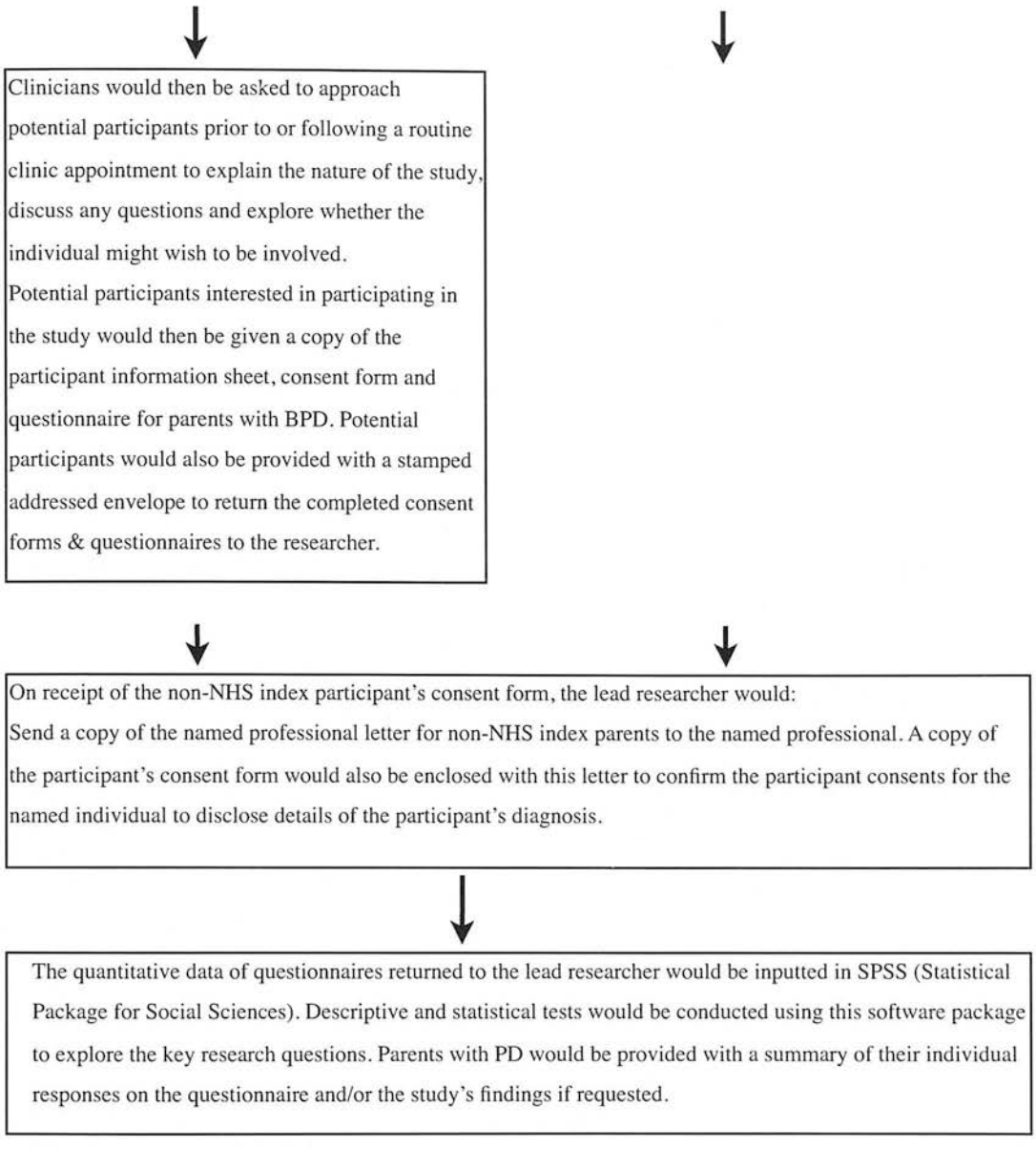

Figure 4: Protocol for Parents with BPD Recruited out with the NHS (continued)

2.7 Statistical Analysis

2.7.1 Data Preparation

Final Data

In the control parent group, seventeen clinician information sheets were returned with the details of participants who had consented to participate in the study. Of these, ten participants completed and returned questionnaires. One participant in the control group was subsequently excluded from the study on the basis of the exclusion criteria (see 3.1.1). In the index parent group, thirteen clinician information sheets were returned. Of these, ten parents returned completed questionnaires. One male index participant was subsequently excluded from the final data due to the insufficient numbers of male gender participants across participant groups. The final data therefore consisted of nine index mothers and nine control mothers.

A priori statistical power analysis indicated that a sample size of nine participants per group would provide sufficient power to reject the null hypotheses using a one-way ANCOVA including two covariants. However, in light of the unusually large effect size underlying the power analysis, the study had sought to recruit double the number of participants to reduce the potential of a Type II error, should previous effect sizes not be replicated in this study. The small number of participants in this study therefore raises concerns over whether the data analysis may truly test the null hypotheses.

In the context of low power, the potential for Type II errors, whereby the null hypothesis is accepted in the presence of a real effect, and the potential for Type I errors, whereby the null hypothesis is rejected in the absence of a real effect, are increased (Baguley, 2004; Christley, 2010). While the ANCOVA is generally considered to be a robust statistical test, offering enhanced power and precision (Stevens, 2002), the validity of the ANCOVA may be undermined in small sample sizes, where the ability reliably to identify violations of the assumptions of the ANCOVA and to explore effectively the relationship between the covariants and the dependent and independent variables may be compromised (Tabachnik & Fidell, 1996). In addition, should a more moderate effect size emerge in this study, the ANCOVA is unlikely to offer sufficient power to detect a real effect, leading to Type II errors. In light of these concerns, simpler, non-parametric comparisons of means and case series analysis were also employed to explore the hypotheses and the relationships between the covariants and the dependent variables.

Missing Data

No missing data emerged on the dependent variables, the CORE-OM or the two covariants (BDI-II & SDQ-P). On the SCID-II-PQ, eight missing values emerged (0.007% of the SCID-II-PQ data). These were randomly distributed across participants. Respondents on the SCID-II-PQ are instructed to leave items blank if they do not understand the question or are not sure of the answer. In line with the scoring instructions of the SCID-II-PQ, missing values were scored as 0.

Exploration of Normality and Assumptions of ANCOVA

Prior to conducting the parametric analysis, the distributions of the covariants and dependent variables were explored with normality plots, box plots and histograms to assess whether the variables appeared normally distributed. Shapiro-Wilks normality tests were subsequently conducted to confirm whether the distribution of the variables differed significantly from that expected in a normal distribution. Where variables did not conform to a normal distribution, the transformation of data to meet the requirements of parametric tests was explored (Bland & Altman, 1995).

Scatter plots were conducted to explore the relationship between the covariants, the relationships between the covariants and the dependent and independent variables and the homogeneity of regression slopes across groups. Parametric and non-parametric bivariate correlations, homogeneity of regression tests and the Levene's test of equality of error variance were subsequently employed to confirm whether any of these relationships violated the assumptions of a one way analysis of covariance (ANCOVA).

2.7.2 Data Analysis

Demographic Data

Non-parametric two-tailed tests of significance were conducted to explore potential demographic differences between index and control mothers. Where variables under examination met the conditions of a normal distribution, two-tailed parametric tests were adopted in preference to non-parametric tests.

Principal and Secondary Hypotheses

Preliminary data analysis of the assumptions of the ANCOVA indicated that, on the whole, the data did not violate the core assumptions of the ANCOVA i.e. correlation analysis, the

Levene's test of equality of error variance and tests of homogeneity of variance indicated no violations of the five core assumptions. However, visual inspection of the data in relation to the Parental Attribution Test and one of the sub-scale of the Child Vignettes suggested potential violations of the assumption of homogeneous regression lines. As the statistical tests of homogeneity of regression lines are based on the absence of a significant finding, these test may be susceptible to Type II errors in the context of a small N i.e. it is possible that with a larger N, significant differences between the regression lines might have emerged, thereby violating the ANCOVA. In addition, normality tests indicated that two sub-scales of the Parental Attribution Test were not normally distributed. While the ANCOVA is generally considered to still be robust in the context of non-normally distributed data, its robustness becomes more circumspect with a smaller N. Due to the aforementioned concerns about the validity of ANCOVA in the context of small N, simpler, two-tailed non-parametric comparisons of means (Mann-Whitney U-test) were conducted as the principle means of analysis in testing the core hypotheses.

However, to explore the potential role of the covariants, the statistical analysis also included the planned one way analysis of covariance where maternal depression and the emotional and behavioural difficulties experienced by participants' children. Where the relationships between the covariants and the dependent variables did not support the inclusion of one of the covariants in the ANCOVA, the relevant covariant was dropped from the ANCOVA. Exploratory case series analysis was also employed to gain a clearer picture of the relationships between potential covariants and the dependent variables.

A significance level of 0.05 was applied to all statistical tests unless otherwise stated. All tests considered two-tailed relationships. Where appropriate, effect sizes (partial eta squared) are presented. Cohen's effect size magnitudes are applied to interpret eta squared effect sizes (0.02 = small effect, 0.15 = medium effect and >0.35 = large effect) and the Cohen d effect sizes (0.2 = small effect, 0.5 = medium effect and >0.8 = large effect) (Cohen, 1992).

CHAPTER THREE

RESULTS

3.1 Preliminary Data Analysis

3.1.1 Exclusion Criteria for Parents with Mild to Moderate Mental Health Difficulties

On scoring the SCID-II-PQ, one mother in the control group scored above the clinical cut-off for a Cluster B PD on the SCID-II-PQ (meeting seven of nine diagnostic criteria for BPD on the screening questionnaire). The same individual scored above the clinical cut-off for severe mental health difficulties on the CORE-OM. All data relating to this individual was, therefore, excluded from further preliminary or statistical data analysis.

3.1.2 Levels of Psychological Distress and Personality Difficulties of Control Mothers

On the CORE-OM[12], scores for the remaining nine mothers in the control group ranged from 28 (low level psychological distress) to 84 (moderate to severe psychological distress), with a mean score of 45.2 (mild psychological distress) (SD=20.4) (Figure 5).

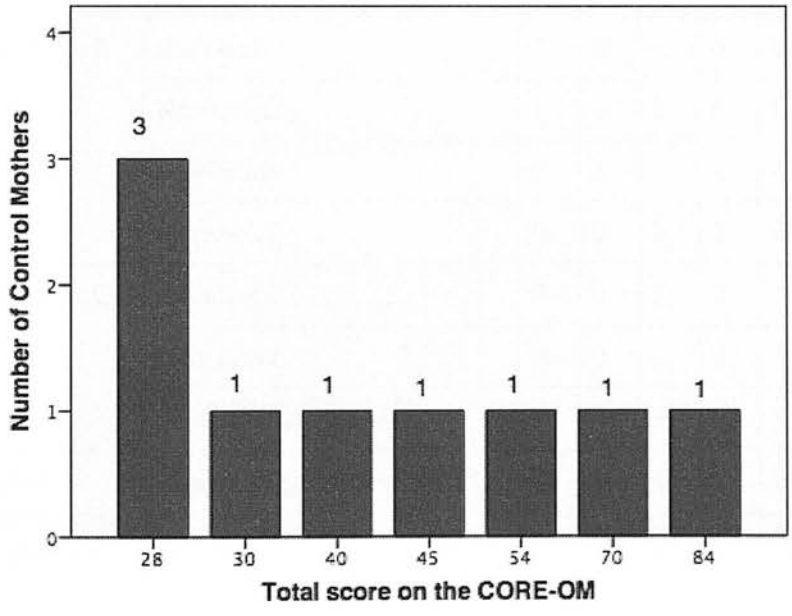

Figure 5: Levels of psychological distress of mothers in the control group based on the total scores on the CORE-OM

[12] Total scores on the CORE-OM may be classified into six bands: healthy, low level, mild, moderate, moderate to severe and severe.

On the SCID-II-PQ, all but one of the mothers in the control group scored above the clinical cut-off for one or more PDs (Table 4). Seven mothers scored above the clinical cut-off for a Cluster C[13] PD. These included four who screened positive only for Cluster C PDs; one who screened positive for Cluster C PDs and both depressive and passive-aggressive PDs (currently categorised under personality disorder not otherwise specified); one who screened positive for Cluster C PDs and passive-aggressive PD, but not depressive PD; and one who screened positive for Cluster A and C PDs and for both depressive and passive-aggressive PDs. One mother screened positive for a single Cluster A[14] PD. It should be noted that, due to the high false positive rate on the SCID-II-PQ, scores above the clinical cut-offs for the aforementioned PDs do not equate to actual diagnoses.

Table 13: Number of diagnostic criteria met by the nine control mothers in relation to the twelve personality disorder diagnoses on the SCID-II-PQ

DSM-IV grouping	DSM-IV Personality Disorder	C1	C2	C3	C4	C5	C6	C7	C8	C9
Cluster A	Paranoid	3	3	3	6	4	0	4	5	1
	Schizotypal	2	3	2	2	2	3	3	6	0
	Schizoid	0	1	1	4	2	2	1	2	1
Cluster B	Histrionic	3	0	1	0	0	1	0	1	1
	Narcissistic	1	4	2	0	0	3	1	2	1
	Borderline	2	3	1	2	4	5	4	5	4
	Antisocial	0	0	0	0	0	0	0	0	0
Cluster C	Avoidant	2	0	5	2	4	5	5	7	2
	Dependent	2	0	2	2	1	0	3	5	2
	Obsessive-compulsive	4	7	5	4	5	6	5	6	6
Not Otherwise specified	Passive-Aggressive	1	2	4	2	2	3	5	6	2
	Depressive	4	4	2	0	4	6	7	6	3

(Diagnostic criteria highlighted in blue indicate scores above the diagnostic threshold)

[13] According to DSM-IV, Cluster C refers to anxious and fearful personality types.

[14] According to DSM-IV, Cluster A refers to odd and eccentric personality types.

3.1.3 Demographic Data

Due to the relatively low numbers of participants recruited, it was not possible to match participants in relation to age of parent, gender, age range and number of children or the presence or absence of additional physical, educational or emotional needs in the children.

Preliminary analysis of the demographic data indicated that for the index mothers, four were between 25 and 35 years of age; four were between 35 and 45 years of age; and one was between 45 and 55 years of age. Mothers in the control group fell into similar age brackets: five mothers were aged between 25 and 35 years; four mothers were aged between 35 and 45 years.

The mean number of children in index families was 2.9 (SD=1.76, range: one to seven children); the mean number of children in control families was 1.7 (SD=0.71, range: one to three children) (Figure 6). The number of children did not differ significantly between index and control mothers (Mann-Whitney U, p=0.077).

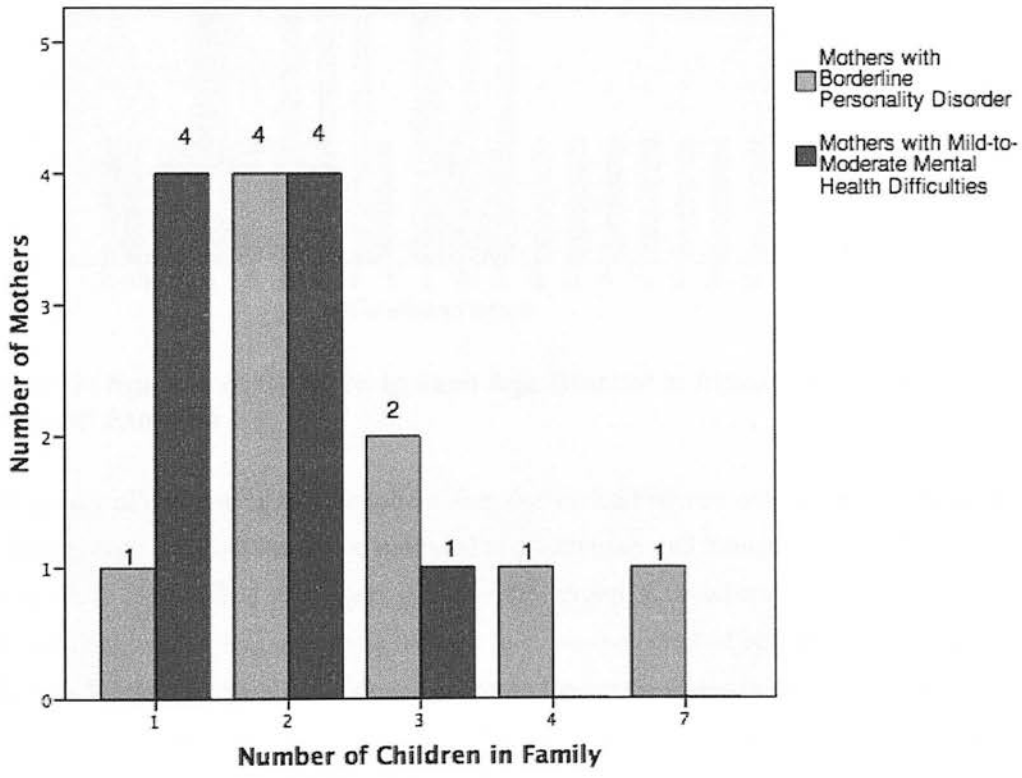

Figure 6: Number of Children in Index and Control Mothers' Families

The twenty-six children in index mothers' families ranged in age from 6 months to 26 years old (M=9.4 years, SD=6.33), whereas the fifteen children in control mothers' families ranged in age from 18 months to 11 years (M=5.4 years, SD=3.20). The children in index mothers' families were significantly older than the children in control mothers' families (Mann-Whitney U, p=0.028) (Figure 7).

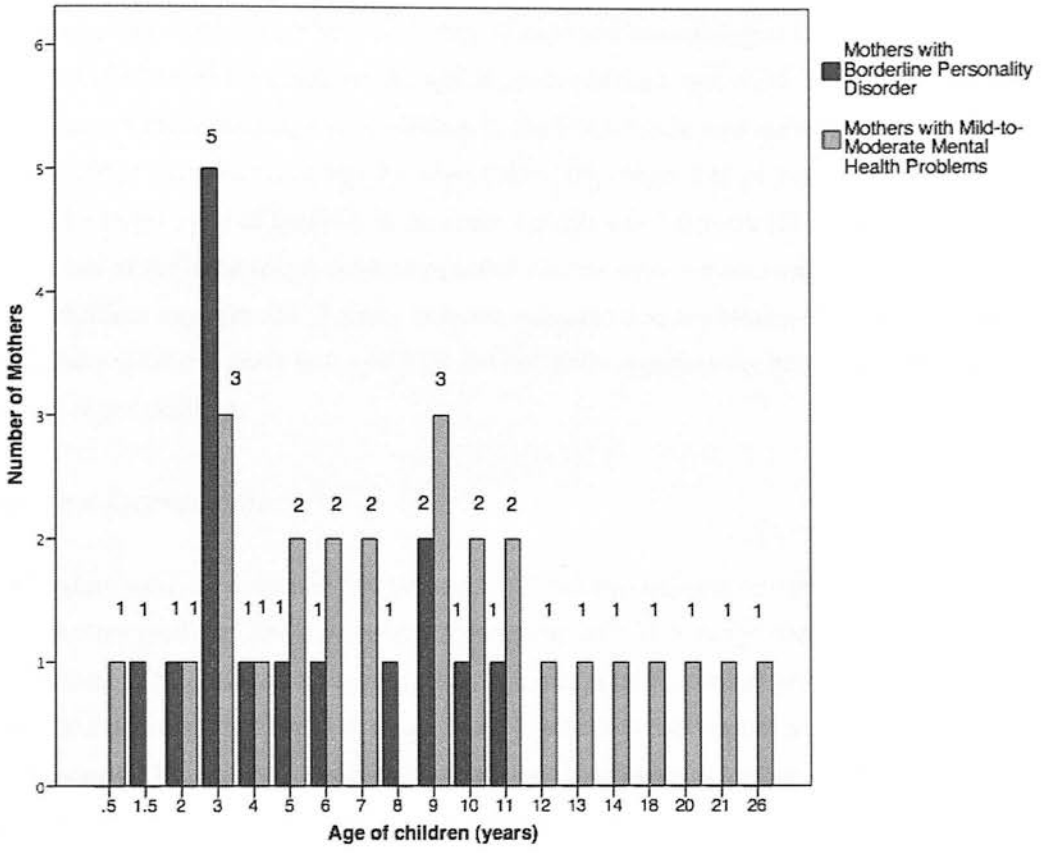

Figure 7: Number of Children in each Age Bracket in Index and Control Mothers' Families

The gender of children in index mothers' families varied between only female children (two mothers), only male children (two mothers) and both male and female children (five mothers). In the families of mothers in the control group, six mothers had only female children, one mother had only male children and two mothers had both male and female children. While male gender children were more frequently found in index families (seven out of nine mothers compared to three out of nine mothers in the families of mothers in the control group), this was not a significant difference (Fisher's Exact Test: p=0.153).

Two of the index mothers and one of the mothers in the control group described their children as having special educational needs (dyslexia (index mother)); physical health

problems (asthma (index mother); limited growth (control mother); eye problem (control mother)); or mental health problems (autism spectrum disorder (index mother)).

In responding to the Strength and Difficulties questionnaire (SDQ-P), participants were asked to complete the measure for a child between the age of three and sixteen. Where mothers had more than one child in this age bracket, mothers were asked to complete the measure for the child whose behaviour they found most concerning or challenging. One of the index mothers did not indicate the age or gender of the target child. Exploratory analysis conducted on the remaining target children in the SDQ-P indicated that the mean age of the target child of index mothers was 7.1 years (SD=4.05, range: 3 to 14 years), while the mean age of the target child of mothers in the control group was 5.9 years (SD=3.06, range: 3 to 10 years). Six of the eight target children of index parents were female, while five of the control target children were female. Further analysis indicated that age (Mann-Whitney U, p=0.541) and gender (Fisher's exact test: p=0.373) did not differ significantly between index and control target children.

Maternal Depression

Exploratory analysis indicated that the levels of maternal depression appeared slightly higher in borderline mothers (M=33.7 (severe depression), SD=11.5, range: from 21 (moderate depression) to 56 (severe depression)) than in mothers in the control group (M=25.11 (moderate depression), SD=13.0, range: from 3 (minimal depression) to 45 (severe depression)). This difference was not found to be significant on further analysis ($t(16)$=1.568, p=0.136).

Emotional and Behaviour Difficulties Experienced by Children

Parent-rated levels of emotional and behavioural difficulties experienced by index mothers' children (M=12.3 (normal), SD=4.9, range: from 6 (normal) to 21 (abnormal)) seemed slightly higher than those reported by mothers in the control group (M=9.3 (normal), SD=6.0, range: from 2 (normal) to 19 (abnormal)). However, this difference did not prove significant on further analysis ($t(16)$=1.157, p=0.264). Similarly, no significant differences emerged in relation to three of the four individual difficulties sub-scales of the SDQ-P (Tables 15 and 16). While scores on the pro-social sub-scale were marginally higher for index mothers, i.e. index mothers rated their children as displaying greater levels of pro-social behaviour, this also did not prove to be significant. Of note, maternal ratings on the children's peer problems sub-scale indicated that index mothers (M=2.4, SD=1.13)

perceived their children to have significantly more peer problems than mothers in the control group (M=1.1, SD=1.61) (Mann-Whitney U-test: p=0.031).

Table 14: Means, standard deviations and clinical classification of the sub-scale scores on the SDQ-P for Index and Control Children

	Index Children	Control Children
Emotional symptoms sub-scale	M= 3.9, SD=3.26 *Borderline*	M= 2.2, SD=1.56 *Normal*
Conduct problems sub-scale	M= 2.2, SD= 2.05 *Normal*	M= 2.6, SD=1.88 *Borderline*
Hyperactivity sub-scale	M= 3.8, SD= 2.99 *Normal*	M= 3.4, SD=2.83 *Normal*
Peer problems sub-scale	M= 2.4, SD=1.13 *Borderline*	M= 1.1, SD=1.61 *Normal*
Prosocial scale	M= 9.1, SD=1.62	M= 8.3, SD=1.94

Table 15: Non-parametric comparisons of the Strengths and Difficulties of Index and Control Children based on the sub-scales of the SDQ-P

	Significance
Emotional symptoms sub-scale	p= 0.546
Conduct problems sub-scale	p= 0.605
Peer problems sub-scale	p=0.863
Prosocial scale	p=0.031

3.2 Data Preparation for Parametric Analysis

3.2.1 Assessment of Normality

The distributions of the sub-scales of the two dependent variables and covariants were explored for index and control mothers separately, to assess whether the variables met the conditions for normal distribution. In light of the low number of participants in each group, assessments of normality were interpreted with caution.

Visual investigations of the skewness and kurtosis of the scores, normal Q-Q plots, detrended normal Q-Q plots, box plots and histograms indicated that two sub-scales of the

Child Vignettes (Total Score and Punishment), one scale of the Parent Attribution Test (Perceived Child Control over Failure (CCF)), the Beck Depression Index (BDI-II) and the Strengths and Difficulties questionnaire appeared normally distributed for both groups. Subsequent data analysis with the Shapiro-Wilk test confirmed that these dependent variables were normally distributed (Table 16, Appendix 25). The remaining variables did not prove to be normally distributed on further data analysis (Table 16, Appendix 25).

Parametric tests are considered to be optimal in the data analysis, being both more powerful and more robust (Clark-Carter, 2004). In particular, the ANCOVA is recognised to increase precision and power and thus potentially to reduce the risk of a Type I or Type II error (Tabachnik & Fidell, 1996). Within the current study, the ANCOVA's ability to control for potentially important covariants was considered to be particularly relevant. This analysis route was therefore explored initially. Preliminary exploration of the assumptions of the ANCOVA, however, raised concerns about the potential limitations of this analysis in this study. ANCOVA were, therefore, included as a means of exploring the potential role of covariants in this study. However, simpler non-parametric analyses were ultimately adopted in assessing the hypotheses (Section 3.4). Case series analysis was also conducted to explore the relationships between the dependent variables and potential covariables (Section 3.5).

Variables Violating the Assumptions of a Normal Distribution

Visual inspection of the histograms and box plots for the Negative Attribution sub-scale indicated a peaked positive skewness across both participant groups. As recommended by Tabachnik & Fidell (1996), a natural logarithm[15] (LG10) transformation was performed on this sub-scale to adjust for skewness and kurtosis. Data analysis with the Shapiro-Wilk test confirmed that this resulted in a normal distribution (Table 16, Appendix 25). The transformed version of this variable was, therefore, adopted in subsequent parametric statistical analyses.

The exploratory plots of ACF and PCF in index and control participants indicated that the distributions for both of these variables displayed skewness and kurtosis in opposing direction for the two participant groups (Figures 8-11, Appendix 26). As any transformation formula must be applied to both groups, it was not possible to transform these two variables to provide a normal distribution. Although normally distributed variables are typically a condition in parametric analysis, the ANCOVA is recognised to be particularly robust to violations of normality (Birch & Myers, 2002; Harwell, 2003). Both of these dependent

[15] LG10 returns the base-10 logarithm of the variable.

variables were therefore included in the subsequent ANCOVA. It should be noted, however, that with smaller N the relative robustness of the ANCOVA to violations of normality is more questionable (Harwell, 2003). The potential limitations of the ANCOVA were, therefore, of particular relevance in the subsequent analysis of these sub-scales.

3.2.2 Exploration of the Assumptions of the ANCOVA

Assumption 1: The independent variable is not significantly related to covariants

Analysis of the relationship between the independent variable (presence or absence of BPD) and the covariants (maternal depression and emotional and behavioural difficulties experienced by the child) indicated a small to medium correlation with the covariants. This was not found to be significant (Pearson correlation: r=-0.347, p=0.158 and r= -0.278, p=0.264 respectively), indicating that the inclusion of the two covariants did not violate this assumption (Assumption 1). While this level of correlation is acceptable for an ANCOVA, even correlations between 0.25 and 0.4 may lead to potential difficulties with the heterogeneity of regression slopes across different groups. The potential for heterogeneity of regression slopes was, therefore, considered particularly relevant to this study (see Assumption 4) (Harlow, 2005).

Assumption 2: Absence of *strong* relationship between the covariants

ANCOVA assumes that, where there is more than one covariant, these covariants do not in themselves strongly correlate (i.e. r<0.8). Exploratory analysis suggested a positive correlation between maternal depression and parent-rated children's behavioural and emotional difficulties (Figure 12, Appendix 27). Further analysis confirmed a large overall correlation between participants' levels of depression, as indicated by total scores on the BDI-II, and the degree of emotional and behavioural difficulties experienced by target children, as indicated by total scores on the SDQ-P (Pearson correlation: r=0.601, p=0.008). Given that the correlation between the covariants was below 0.8, the inclusion of these two separate covariants was considered to be acceptable (Stevens, 2002). However, the relatively large correlation between covariants was recognised to be an important consideration in interpreting the power of the ANCOVA in this study.

Assumption 3: Linear relationship between covariants and dependent variables

For a covariant to contribute effectively to the analysis of covariance, it is recommended that the correlations between the covariant and the dependent variables are greater than 0.3. Covariants below this level may act to reduce, rather than increase, the power of the analysis. To explore the relationships between covariants and dependent variables, scatter plots were conducted exploring the relationship between the BDI-II and SDQ-P and the three core scales of the PAT and CV, with separate plots for index and control mothers.

Child Vignettes

Scatter plots suggested the presence of linear relationships between the covariants and the sub-scales of the Child Vignettes, with similar relationships across index and control mothers (Figures 13, 15, 16 and 17, Appendix 28). In the case of the relationship between maternal depression and the Punishment sub-scale, maternal depression did not appear linearly related to the Punishment scores in the index group, while a strong relationship emerged in the control group (Figure 14, Appendix 28).

Where linear relationships emerged, these were consistent with the predicted relationships between the covariants and the Child Vignettes, i.e. maternal depression and the degree of difficulties experienced by participants' children correlated positively with the sub-scales of the Child Vignettes. Correlation analysis confirmed medium (*rho*>0.3) to large (*rho*>0.5) linear relationships (Table 17) for all but three of these relationships. In the latter three cases, small to negligible linear relationships emerged, i.e. the relationship between maternal depression and the index mothers' scores on the Total Score (*rho*=0.244) and Punishment (*rho*=0.092) sub-scales, and the relationship between maternal depression and control mothers' scores on the Negative Attribution sub-scale (*rho*=0.218) were small to negligible (Table 17). However, for these three relationships, the corresponding correlation for the other participant group indicated a stronger correlation (*rho*>0.4). It was, therefore, considered that the covariants may still have a significant effect on these dependent variables. As a result, the covariants were not excluded from the ANCOVA for the Child Vignette sub-scales.

While, generally, similar linear relationships were observed between the Child Vignettes and the covariants across the participant groups, the strength of these relationships appeared to be stronger in the control group, particularly in the case of the relationship between maternal depression and the Punishment sub-scale (Table 17).

Parental Attribution Test

In the case of the sub-scales of the PAT, scatter plots indicated linear relationships with maternal depression (Figures 18, 19 and 20, Appendix 29). However, the crossing of the regression lines for these variables suggested potentially differing relationships in control and index groups, with neither group displaying a consistently stronger relationship across the various measures. Correlation analysis confirmed the following relationships: maternal depression displayed a moderate to large negative linear relationship with PCF across both goups (index group: *rho*>0.5; control group: *rho*>0.3); a negligible to large negative linear relationship with ACF across both groups (index group: *rho*=0.044; control group: *rho*>0.5); and a small to moderate positive linear relationship with CCF across both groups (index group: *rho*>0.5; control group: *rho*>0.1) groups (Table 17). Despite the negligible correlations between the dependent variables and covariants in some of these relationships, the indication of higher correlation in the other participant group appeared to support the inclusion of maternal depression as a covariant in the analysis of the PAT sub-scales. As in the Child Vignettes, the linear relationships were consistent with the predicted relationship between maternal depression and the PCF and CCF sub-scales of the PAT. However, contrary to expectation, higher maternal depression was related to lower ACF scores.

Contrary to expectation, the PCF and CCF sub-scales displayed negligible linear relationships with the level of behavioural and emotional difficulties experienced by participants' children (Figures 21 & 23, Appendix 29). As the correlations in both index and control groups were under or close to 0.3 (Table 17), the inclusion of the SDQ-P was considered potentially to reduce the power of the analysis for these sub-scales, suggesting that for these variables it may be better to drop this covariant from the analysis. In the case of ACF, although there was a negligible correlation with the SDQ-P in the index group (*rho*= -0.052), the presence of a large correlation in the control group (*rho*>0.5) appeared to support the inclusion of the SDQ-P in the analysis of covariance for the ACF sub-scale (Table 17 and Figure 22, Appendix 29).

Table 17: Non-parametric correlations indicating the relationship between covariants (BDI-II, SDQ-P) and dependent variables

	Beck Depression Inventory (BDI-II)		Emotional and Behaviour Difficulties of Children (SDQ-P)	
	Index mothers	Control mothers	Index mothers	Control mothers
Perceived Control over Failure (PAT)	*rho*= -0.531 *p*= 0.141	*rho*= -0.361 *p*= 0.339	*rho*= -0.171 , *p*= 0.660	*rho*= -0.182 *p*= 0.639
Adult Control over Failure (PAT)	*rho*= 0.044 *p*= 0.910	*rho*= -0.727 *p*= 0.027	*rho*= -0.052 *p*= 0.895	*rho*= -0.569 *p*= 0.110
Child Control over Failure (PAT)	*rho*= 0.562 *p*= 0.115 (*r*= 0.471 *p*= 0.201)	*rho*= 0.134 *p*= 0.731 (*r*= 0.077 *p*= 0.843)	*rho*= 0.308 *p*= 0.421 (*r*= 0.119 *p*= 0.767)	*rho*= -0.080 *p*= 0.838 (*r*= 0.116 *p*= 0.767)
Total Score (CV)	*rho*= 0.244 *p*= 0.527 (*r*= 0.255 *p*= 0.507)	*rho*= 0.736 *p*= 0.024 (*r*= 0.636 *p*= 0.066)	*rho*= 0.356 *p*= 0.347 (*r*= 0. 600 *p*= 0.088)	*rho*= 0.654 *p*= 0.056 (*r*= 0.595 *p*= 0.091)
Logarithm transformation of Negative Attribution (CV)	*rho*= 0.433 *p*= 0.245 (*r*= 0.365, *p*= 0.334)	*rho*= 0.218 *p*= 0.574 (*r*= 0.364 *p*= 0.336)	*rho*= 0.374 *p*=0.321 (*r*= 0.541 *p*= 0.132)	*rho*= 0.468 *p*= 0.204 (*r*= 0.581 *p*= 0.101)
Punishment Sub-scale (CV)	*rho*= 0.092 *p*= 0.814 (*r*= -0.105 *p*= 0.789)	*rho*= 0.854 *p*= 0.003 (*r*= -0.804 *p*= 0.009)	*rho*= 0.332 *p*= 0.383 (*r*= 0.415 *p*= 0.267)	*rho*= 0.426 *p*= 0.253 (*r*= 0.420 *p*= 0.260)

All correlations were initially explored with the non-parametric Spearman's Rank Order Correlation to allow comparisons across dependent variables. Where appropriate, parametric correlations are also provided in brackets. Incidence of weak or negligible correlations in both the index or the control group are highlighted in blue.

Assumption 4: Similar linear relationship between covariants and dependent variables at each level of the independent variable (homogeneity of regression slopes)

The scatter plots and correlations at group level indicated that the strength of the linear relationships between the covariants and the dependent variables frequently differed across the participant groups. In particular, the scatter plots for the PAT/BDI-II/SDQ-P and the

Punishment sub-scale/BDI-II indicated a potential interaction between the independent variable (absence or presence of BPD) and the relationship between the dependent variable and the covariant. On these scatter plots, the lines crossed rather than running in parallel, indicating that the relationship between the covariant and the dependent variable may differ depending on the level of the covariant, e.g. for the ACF (PAT) and the Punishment sub-scale (CV), it appeared that in control mothers higher levels of maternal depression were linked to lower ACF and higher punishment scores, whereas in index mothers higher levels of depression seem to be linked to higher ACF scores and to be unrelated to the Punishment sub-scale. Given the small to medium correlation found between the independent variable and the covariants, this possibility needed to be considered carefully.

However, homogeneity of regression slopes does not reflect simply the slope of the study sample but also the slopes of the overall population from which the samples derive. The question is whether the differences in the sample slopes are sufficient to judge the population slopes also to be different. In small sample sizes, it is particularly important not to judge homogeneity of regression slopes on the samples alone due to the inherent sampling error of a small sample. Instead, statistical tests of the homogeneity of the regression slopes are recommended (Stevens, 2002). Tests of the homogeneity of the regression slopes indicated that the relationships between the covariants and the dependent variables did not violate the assumptions of homogeneity of regression slope required for an ANCOVA (Table 18, Appendix 30). It should be noted, however, that homogeneity of regression slopes is indicated by the absence of a significant interaction between the linear relationships. It is, therefore, important to consider the potential of a Type II error, given the small N in this study.

Assumption 5: Homogeneity of Variance

The final assumption of the ANCOVA relates to the homogeneity of variance across index and control groups on the dependent variable. Exploratory investigation of the unadjusted means and variance of each of the sub-scales suggested that the variance in control mothers' scores for dependent variables generally displayed greater variation than the equivalent scores for index mothers. In particular, the variance of index mothers' scores on the Total Score and Punishment sub-scales on the Child Vignette appeared to be lower than the equivalent variance in relation to control mothers (Table 19).

Table 19: Unadjusted Means and Standard Deviations of Dependent Variables for Index and Control Mothers

	Index mothers	Control mothers
Total Score (CV)	*M*= 53.9, SD=14.77	*M*=82.9, SD=30.03
Punishment sub-scale (CV)	*M*=24.0, SD=3.94	*M*=38.0, SD=13.10
Logarithm transformation of Negative Attribution (CV)	*M*=1.42, SD= 0.17	*M*= 1.61, SD=0.18
Perceived control over Failure (PAT)	*M*= 6.8, SD=3.99	*M*=8.6, SD=8.17
Adult Control over Failure (PAT)	*M*=26.3, SD=4.15	*M*=28.7, SD=6.22
Child Control over Failure (CCF)	*M*=19.6, SD=5.20	*M*=20.11, SD=2.98

Following the logarithymic transformation of a scale, it is not possible to transform the standard deviation back to the original scale (Bland & Altman, 1996a). To allow comparison across the index and control groups, the means and standard deviations of the logarithm transformed are provided in this table.

The Levene's Test of Equality of Error Variances confirmed that only the Punishment sub-scale (CV) violated this assumption (Table 20, Appendix 30). In the context of equal N effect on the levels of Type I and Type II error (Harwell, 2003). However, with smaller N the relative robustness of the ANCOVA to violations of homogeneity of variance is more questionable (Harwell, 2003). Following the recommendation of Tabachnik & Fidell (1996), a more stringent significance level of $p<0.01$ was therefore applied in evaluating the significance of this finding, to reduce the possibility of Type I error. The potential limitations of the ANCOVA in exploring the differences between control and index mothers' scores on the Punishment sub-scale were also considered carefully in interpreting the findings.

3.3 Parametric Statistical Analysis

Hypothesis 1

Hypothesis one stated that, after adjusting for maternal levels of depression and the degree of emotional and behavioural difficulties presented by participants' children, there would be a significant difference between the borderline mothers' and control mothers' perceptions of the relative balance of control in negative parent-child interactions (Perceived Control over Failure (PCF) sub-scale) as measured by the Parent Attribution Test (PAT). As the degree of children's behavioural and emotional difficulties demonstrated a negligible relation with the PCF sub-scale, only maternal depression was controlled for in the analysis.

One way analysis of covariance indicated similar adjusted mean[16] scores in index mothers (Adjusted M=7.6, 95% CI 3.0-12.1 (Table 21)) and control mothers (Adjusted M=7.8, 95% CI 3.2-12.4 (Table 21)). Statistical analysis confirmed that, after controlling for the effects of maternal depression, there was no significant difference between index and control mothers' perceptions of the balance of control in the context of negative parent-child interaction ($F(1,14)=0.006$, $p=0.941$).

Table 21: Unadjusted and Adjusted Means and Variance of the Dependent Variables for Index and Control mothers

	Index Mothers		Control Mothers	
	Unadjusted means	Adjusted means	Unadjusted means	Adjusted mean
Logarithm of Negative attribution (CV)	M=26.6 SD N/A	M=24.8 CI 19.1 - 32.2	M= 41.1 SD N/A	M=44.1 CI 33.9 - 57.4
Punishment (CV)	M=24.0 SD=3.9	M=22.0 SE=2.9	M=38.0 SD=13.1	M=40.0 SE=2.9
Total score (CV)	M= 53.9 SD=14.8	M=48.6 SE=6.8	M=82.9 SD=30.0	M=88.1 SE=6.8
Perceived control over failure (PAT)	M= 6.8 SD=4.0	M=7.6 SE=2.1	M=8.6 SD=8.2	M=7.8 SE=2.1
Adult control over failure (PAT)	M=26.3 SD=4.2	M=26.7 SE=1.9	M=28.7 SD=6.2	M=28.3 SE=1.9
Child control over failure (PAT)	M=19.6 SD=5.2	M=19.2 SE=1.5	M=20.11 SD=3.0	M=20.4 SE=1.5

Hypothesis 2

Hypothesis two proposed that, after adjusting for maternal levels of depression and the degree of emotional and behavioural difficulties presented by participants' children, there would be a significant difference between borderline and control mothers' attributions of negative intent as measured by the Negative Attribution sub-scale on the Child Vignettes. One way ANCOVA, controlling for maternal depression and children's emotional and behavioural difficulties, indicated that index mothers attributed significantly less negative

[16] Adjusted mean scores are the means of the dependent variable after the effect of the covariants is statically removed.

hostile intent (Adjusted M=24.8, 95% CI 19.1-32.2[17] (Table 21)) to ambiguous or negative child behaviour than control mothers (Adjusted M=44.1, 95% CI 33.9-57.4 (Table 21), $F(1,14)=10.26$, $p=0.006$). Partial eta squared calculation (SSeffect / (SSeffect + SSerror)) confirmed a large effect size ($\eta_p^2=0.42$).

Secondary Hypotheses

In relation to the Parental Attribution Test, two secondary hypotheses were proposed. The first of these stated that, after controlling for maternal depression and parent-rated children's emotional and behavioural difficulties, there would be a significant difference in index and control mothers' perceptions of the degree of adult control over negative parent-child interactions (ACF). One way analysis of covariance demonstrated similar adjusted mean scores for index mothers (Adjusted M=26.7, 95% CI 22.7-30.8 (Table 21)) and control mothers (Adjusted M=28.2, 95% CI 24.2-32.4 (Table 21)). Reflecting this, after controlling for the level of maternal depression and children's emotional and behavioural difficulties, no significant differences between index and control mothers' perceptions of adults' control over negative parent-child interaction emerged ($F(1,14)=3.01$, $p=0.592$).

The second hypothesis in relation to the PAT proposed that, after controlling for maternal depression and parent-rated children's behavioural and emotional difficulties, there would be a significant difference in index and control mothers' perceptions of the degree of child control over negative parent-child interactions (CCF). As the degree of children's emotional and behavioural difficulties displayed a negligible relationship with the CCF sub-scale, this latter covariant was not included in the analysis. One way analysis of covariance indicated equivalent adjusted mean scores for index mothers (Adjusted M= 19.2, 95% CI 16.1-22.4 (Table 21)) and control mothers (Adjusted M= 20.4, 95% CI 17.3-23.6 (Table 21)). Analysis of covariance confirmed that, after adjusting for maternal depression, no significant differences between index and control mothers' perceptions of children's control over negative parent-child interaction emerged ($F(1,14)=0.323$, $p=0.578$).

Two secondary hypotheses were also proposed in relation to the Child Vignettes. The first of these stated that, after adjustment for maternal depression and the parent-rated level of

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[6] The actual adjusted mean values provided in the ANCOVA analysis related to the log10 of the raw scores on the Negative Attribution sub-scale. To allow these scores to be more easily interpreted, the adjusted geometric mean is provided. The adjusted geometric mean is derived from the anti-log of the adjusted mean scores provided by the ANCOVA (Bland & Altman, 1996a).

[17] Following the logarithmic transformation of a scale, it is not possible to transform the standard deviation back to the original scale (Bland & Altman, 1996a). Instead, to provide an estimate of standard error, it is recommended that 95% confidence intervals, calculated from the anti-log of the actual confidence intervals, are provided (Bland & Altman, 1996b).

emotional and behavioural difficulties experienced by participants' children, there would be significant differences between index and control mothers' scores on the Punishment sub-scale on the Child Vignettes. One way ANCOVA, controlling for the aforementioned covariants, indicated that index mothers responded to ambiguous or negative child behaviour with significantly lower levels of punishment (Adjusted M=22,0, 95% CI 15.7-28.3 (Table 21)) than control mothers (Adjusted M=40.0, 95% CI 33.7-46.3 (Table 21), $F(1,14)=17.389$, $p=0.001$). As outlined earlier, violation of the homogeneity of variance was detected with this dependent variable, and so a more stringent significance level of $p<0.01$ was applied in evaluating the significance of this finding. Partial eta squared calculation confirmed a large effect size ($\eta_p^2=0.55$).

The final hypothesis stated that, after controlling for maternal depression and parent-rated children's emotional and behavioural difficulties, there would be significance differences between control and index mothers' child-centred attributions and levels of punishment in response to ambiguous or negative child behaviour (i.e. Total Scores) on the Child Vignettes. After adjusting for the aforementioned covariants, one way ANCOVA confirmed significant differences between the two groups in terms of Total Score on the Child Vignettes, with index mothers scoring significantly lower (M=48.6, 95% CI 34.0-63.2 (Table 21)) than control mothers (M=88.2, 95% CI 73.6-102.7 (Table 21)) on this sub-scale ($F(1,14)=15.7$, $p=0.001$). Partial eta squared calculation indicate a large effect size ($\eta_p^2=0.53$).

3.4 Non-parametric Analysis

The small N in this study raises a number of questions in relation to adoption of the ANCOVA to explore differences between the control and index mothers. In particular, violations of normality, homogeneity of variance and homogeneity of regression slopes may be vulnerable to Type II errors with small N. The correlations between the covariants and dependent variables at group level and the corresponding scatter plots indicate that potential violations of the latter of these assumptions may be particularly relevant to this study.

The ANCOVA analysis further indicated relatively small correlations between the covariants and the dependent variables, a comparably large correlation between the two covariants and small to medium correlations between the independent variable and the covariant, which raises questions over whether the inclusion of the covariants reduces rather than increases power and precision in this study. Given the violations of normality in relation to the PCF and ACF sub-scales, and the heterogeneity of variance in relation to the Punishment sub-scales, the findings for these sub-scales should be interpreted with particular caution.

Taking this into account, the hypotheses were ultimately tested using non-parametric tests with a much simpler analytic framework, where the role of the covariants was not considered. Case series analysis and the findings of the ANCOVA were considered in interpreting the findings of the non-parametric analysis. As non-parametric tests do not require normally distributed variables, the raw data for the Negative Attribution sub-scale was adopted rather than the logarithmic transformation of this sub-scale.

Hypothesis 1

Hypothesis one proposed that there would be a significant differences between index and control mothers' perceptions of the balance of control over negative parent-child interactions. Exploratory inspection of the means and variance of the PCF for index and control mothers indicated that index mothers' scores on the PCF (M=6.8, SD=3.99, 95% CI 4.2-9.4) were marginally lower than those of control mothers (M=8.6, SD=8.17, 95% CI 3.2-13.9). However, further analysis indicated that there was no significant difference in index and control mothers' scores on the PCF (Mann-Whitney U, p=0.796).

Hypothesis 2

Hypothesis two stated that there would be significant differences between index and control mothers' attributions of negative intent in response to ambiguous and negative child behaviour. The means and variance of the Negative Attribution sub-scale for index and control mothers indicated that index mothers (M=28.6, SD=12.45, 95% CI 20.4-36.7) may attribute less negative intent to ambiguous or negative child behaviour than control mothers (M=44.9, SD=22.98, 95% CI 29.9-59.9). Further analysis confirmed this to be a significant difference (Mann-Whitney U, p=0.031). This proved to reflect a large effect size (Cohen d=0.88; see Appendix 4 for details of the calculation).

Secondary Hypotheses

It was further hypothesised that there would be significant differences between index and control mothers' scores on the ACF sub-scale. Exploratory inspection of the means and variance on the ACF suggested roughly equivalent scores for index mothers (M=26.3, SD=4.15, 95% CI 23.6-29.0) and control mothers (M=28.7, SD=6.22, 95% CI 24.6-32.7). Further analysis confirmed no significant difference between the participant groups on the ACF sub-scale (Mann-Whitney U, p=0.222).

A significant difference between index and control mothers' scores on the CCF sub-scale of the PAT was also predicted. The mean and variance of both groups' scores on the CCF sub-scales indicated similar scores in index mothers (M=19.6, SD=5.20, 95% CI 16.2-23.0) and control mothers (M=20.1, SD=2.98, 95% CI 18.2-22.1). Statistical analysis confirmed no significant difference (Mann-Whitney U, p=0.796).

On the Punishment sub-scale of the Child Vignettes, index mothers (M=24.0, SD=3.94, 95% CI 21.4-26,6) appeared to respond to ambiguous and negative child behaviour with lower levels of punishment than control mothers (M=38.0, SD=13.10, 95% CI 29.4-46.6). Further analysis confirmed this to be a significant difference (Mann-Whitney U, p=0.006). Further calculations indicated a large effect size (Cohen d=1.44, Appendix 4).

Finally, scores on the Total Score sub-scale suggested that index mothers (M=53.9, SD=14.77, 95% CI 44.2-63.5) responded to ambiguous and negative child behaviour with lower levels of negative attributions and punishment than control mothers (M=82.9, SD=30.03, 95% CI 63.3-102.5). Statistical analysis corroborated that this was a significant difference (Mann-Whitney U, p=0.019). Additional calculations confirmed that this reflected a large effect size (Cohen d=1.22, Appendix 4).

3.5 Case Series Analysis

To develop further insight into the potential relationships between the covariants and the dependent variables in the index and control groups, case series analysis was also conducted. Case series analysis is recognised to offer potentially valuable insight into the relationships between independent variables, co-variables and dependent variables in exploratory studies where small N may limit the validity of statistical conclusions. In particular, in new areas of research such as this, case series analysis may highlight potential relationships that can subsequently be tested in studies with greater methodological rigour (Kooistra *et al.*, 2009).

Mothers with Borderline Personality Disorder

Case-by-case examination of the data for index mothers indicated considerable variation in the demographic characteristics of the participants: the number of children ranged from 1 to 7; the age of children varied from 6 months to 26 years; and the age of mothers ranged from 25-35 to 45-55. Despite these variations, index mothers' scores across the Child Vignettes appeared to be closely clustered, with low levels of variation and no clear outliers (Table 22). Two index mothers (S5 and S6) presented with observably higher scores on the Total Score and Negative Attribution subscales, with differences on the latter scale appearing to be

responsible for the differences in the former (Table 22). S5, a mother aged between 35 and 45 years, had four children, both male and female, between the ages of five and 11 years. S6, a mother aged between 35 and 45 years, had three children, both male and female, between the ages of 10 and 26 years, one of whom presented with dyslexia. Examining the demographic data and covariants, it seemed that the higher scores on the Negative Attribution scale might relate to the relatively high levels of maternal depression associated with these participants. However, a positive relationship between depression and negative attribution was not apparent for S1 and S9. It would appear therefore that, if there is a relationship between depression and the Negative Attribution scale, it is not consistent across index participants in this study. Interestingly, the higher negative maternal attribution scores for S5 and S6 did not appear to reflect higher levels of punishment. Typically, these two sub-scales are highly correlated. No other clear patterns emerged in relation to the demographic variables or covariants.

On the Parental Attribution Test, the Adult Control over Failure was again closely clustered, with low levels of variation and no clear outliers. No clear pattern was apparent in relation to the covariants and demographic variables for this dependent variable. However, greater variation was found on the CCF and PCF sub-scales, with scores clustering into three groups (13-16, 19-21, 25-27 and 0-1, 6-8 and 10-11 respectively). The low scores on the PCF appeared to relate to higher scores on the CCF, although this relationship may have appeared more pronounced due to the relative balance of control attributed to adults (ACF) and children (CCF). Low PCF scores (0-1) were found for index mothers S3 and S5. S3 was a mother between 45 and 55 years of age with two children aged 14 and 18 years. S3's scores on measures of maternal depression and the children's levels of emotional and behavioural difficulties were within the mid-range for the index group. S5 was a mother between 35 and 45 years of age with three children aged 10, 21 and 26 years. S5's scores on measures of maternal depression and the children's level of emotional and behavioural difficulties appeared to be nearer to the high end for the index group. It appeared that the lower scores on this sub-scale may be linked to the older age of these mothers' children, which in turn appeared to be linked to higher CCF scores. Further exploration of higher PCF scores (10-11) and lower CCF scores suggested that similarly higher PCF and lower CCF scores might be linked to younger aged children, with participants S2, S7 and S9 all having children under the age of three. Higher scores on the PCF and lower CCF scores also appeared to relate to lower levels of maternal depression. The relationship between maternal depression and PCF/CCF scores did not appear simply to relate to the extreme scores: there seemed to be an overall negative relationship between maternal depression and PCF and an overall positive relationship between maternal depression and CCF. The age of a mother's children

and maternal depression may therefore be relevant covariants in relation to CCF and PCF, with variations in the latter sub-scale being partially mediated by variations in the former sub-scale.

Table 22: Case-by-case data for mothers with Borderline Personality Disorder[19]

	S1	S2	S3	S4	S5	S6	S7	S8	S9
Age range of mother	35-45	25-35	45-55	35-45	35-45	35-45	25-35	25-35	25-35
Number of children	3	7	2	2	4	3	1	2	2
Age range of children	10, 13 & 21 years	6mth - 12 years	14 & 18 years	9 & 11 years	5-11 years	10, 20 & 26 years	3 years	3 & 6 years	3 & 4 years
Gender of children	M	M&F	M&F	M&F	M&F	M&F	F	F	M
Presence of child with additional physical, educational or mental health needs	Yes (Phy)	No	No	Yes (Phy & MH)	No	Yes (Edu)	No	No	No
Level of Maternal Depression	56	21	28	28	43	45	28	26	28
Level of Emotional and Behaviour Difficulties experienced by the child	14	8	11	6	11	19	10	11	21
Total score (CV)	38	43	45	51	70	81	44	47	66
Punishment sub-scale score (CV)	18	21	21	25	29	26	22	24	30
Negative Attribution sub-scale score (CV)	20	22	24	26	41	55	18	18	33
Perceived control over Failure (PAT)	6	10	0	7	7	1	11	8	11
Adult control over Failure (PAT)	33	24	25	32	23	22	24	24	30
Child Control over Failure (PAT)	27	14	25	25	16	21	13	16	19

[19] The following abbreviations are adopted in the table: OCPD-Obsessive Compulsive PD, APD- Avoidant PD, DPD- Depressive PD, PAPD- Passive Aggressive PD, PPD- Paranoid PD & SPD-Schizotypal PD.

Mothers with Mild to Moderate Mental Health Difficulties

Case-by-case exploration of the data relating to control mothers indicated less variation in demographic variables such as the age range of mothers, the number of children and the gender of children. However, wide variation emerged in relation to the level of psychological distress, depression and personality difficulties presented by control mothers. For example C4, a mother aged between 35 and 45 years with one child of nine years, presented with low levels of psychological distress, minimal depression and scored above the clinical cut-off for only one PD. Whereas C7, a mother aged between 25 and 35 years with two children aged 18 months and three years, presented with moderate to severe psychological distress, severe depression and scores above the clinical cut-offs for avoidant, obsessive compulsive, depressive and passive-aggressive PD.

Similarly, there appeared to be considerable variation in the scores on the Child Vignettes, with one potential outlier (C8) on the Negative Attribution scale. C8, a mother aged between 25 and 35 years with one child aged three years, presented with moderate to severe psychological distress, severe depression and scored above the clinical cut-off for paranoid, schizotypal, avoidant, obsessive compulsive, depressive and passive-aggressive PD. It may be that the relatively high levels of potential personality pathology, depression and psychological distress underlie the high score on the CV for this participant. Participants C2, C6, C7 and C8 presented with the highest scores on the Total Scores and Punishment sub-scales of the CV. Similarly, these participants had the highest maternal depression scores, which in turn was associated with higher levels of psychological distress (C2, C6, C7, C8) and personality pathology (C6, C7, C8). These observations indicate that maternal depression, overall psychological distress and personality pathology may be critical covariants in relation to the control group scores on the Child Vignettes.

Control mothers' scores on the sub-scale of the PAT also displayed high levels of variation, with two potential outliers on the PCF sub-scale and two potential outliers on the ACF. The outliers' scores on the PCF sub-scale appeared to relate to the outliers on the ACF (C5 and C9). C5, a mother aged between 35 and 45 years with one child aged three years, presented with scores on measures of maternal depression, psychological distress and personality pathology in the mid-range for this group of participants. C9, a mother aged between 25 and 35 years with one child aged three years, presented with scores on the maternal depression, psychological distress and personality pathology at the low end for the control group. It appeared that attributions of greater control to adults may relate to the young age and/or the small size of these mothers' families. This relationship did not hold for C9. However, it may

be that the high levels of pathology associated with this participant may override any relationship between the age of child/size of family and scores on the ACF sub-scales. Low scores on the ACF sub-scale (C1, C3, C6, C7, C8) also seemed to be linked to higher levels of maternal depression and higher levels of emotional and behavioural difficulties experienced by participants' children.

It would appear that, as in the index mother group, maternal depression and the age of participants' children may act as confounding variables in relation to the sub-scales of the PAT. However, the mechanism underlying the relationship between maternal depression/age of child and the sub-scales on the PAT appeared to differ across participant groups. In borderline mothers, it appeared that higher levels of maternal depression/age of child were linked to lower scores on the PCF sub-scale via the relationships between maternal depression/age of child and the scores on the CCF sub-scale and between maternal depression/age of child and the relative balance of control attributed to the adult and child. By comparison, in control mothers, higher levels of maternal depression/age of child seemed to be linked to lower PCF scores via the relationship between maternal depression/age of child and the ACF sub-scale.

In the control group, the level of emotional and behavioural difficulties experienced by participants' children, overall psychological distress and personality pathology were also related to higher scores on the ACF and lower scores on the PCF. A number of possible co-variables may, therefore, relate to variations on the PAT found within the control group. As these co-variables coincided, it is unclear whether these represent equally important covariants or simply incidental findings.

Table 23: Case-by-case data for mothers with mild-to-moderate mental health difficulties

	C1	C2	C3	C4	C5	C6	C7	C8	C9
Age range of mother	25-35	25-35	35-45	35-45	35-45	35-45	25-35	25-35	25-35
Number of children	2	3	2	1	1	2	2	1	1
Age range of children	3 & 10 years	2, 5 & 8 years	9 & 11 years	9 years	3 years	4 & 6 years	18 mth & 3 years	3 years	3 years
Gender of children	M	M&F	M&F	F	F	F	F	F	F
Presence of child with additional physical, educational or mental health needs	No	No	Yes (Phy)	No	No	No	No	No	No
Scores on SCID-II-PQ above diagnostic cut-off for PD	None	OCPD	OCPD & APD	PPD	OCPD	OCPD, APD & DPD	OCPD, APD, DPD & PAPD	PPD, SPD, OCPD, APD, DPD PAPD	OCPD
Level of Psychological Distress	28	54	45	28	30	52	84	70	28
Level of Maternal Depression	19	27	24	3	16	38	45	36	18
Level of Emotional and Behaviour Difficulties experienced by child	15	7	4	2	4	19	16	7	15
Total score (CV)	68	113	62	62	60	100	86	142	53
Punishment sub-scale score (CV)	26	52	32	31	25	52	57	43	24
Negative Attribution sub-scale score (CV)	42	61	30	31	35	48	29	99	29
Perceived control over Failure (PAT)	6	10	3	3	25	1	4	6	19
Adult control over Failure (PAT)	25	31	25	26	39	25	24	24	39
Child Control over Failure (PAT)	19	21	22	23	14	24	20	18	20

CHAPTER FOUR

DISCUSSION

4.1 Overview

The present study sought to explore borderline mothers' stimulus-dependent attributions and attributional style in relation to child misbehaviour and negative caregiver-child interactions by comparing their responses on parental attributional measures with those of mothers without a diagnosis of BPD. Significant differences emerged in relation to mothers' stimulus-dependent child-centred attributions. However, no significant differences emerged in relation to mothers' attributional style. These findings are discussed in relation to their implications for maternal affect, behaviour and the representation of the child.

4.2 Mothers' child-centred attributions and perceptions of punishment in response to child misbehaviour

According to hypothesis two and the secondary hypotheses, when variance relating to maternal depression and the degree of children's emotional behaviour difficulties was controlled for, significant differences would arise between borderline and control mothers' child centred attributions of negative intent and their perceptions of the appropriate level of punishment.

Consistent with this proposition, borderline mothers were found to attribute significantly less negative intent to the child and to consider lower levels of punishment to be appropriate in responding to incidents of child misbehaviour. Similarly, in line with the secondary hypothesis, significant differences were also found on the Total Score sub-scale of the Child Vignettes, a composite measure of parents' attributions, and parents' perceptions of appropriate punishment in response to child misbehaviour. As would be expected from the findings on these subscales, by comparison with control mothers, borderline mothers' presented with significantly lower scores on this scale, indicating that borderline mothers attributed less negative intent and perceived less punishment to be required in response to child misbehaviour.

The small N limited the extent to which the originally proposed analysis of covariance could be conducted. However, exploration of the proposed ANCOVAs, and exploratory analysis in relation to covariants suggested that the influence of the covariants was less critical to the findings than originally anticipated and the findings were judged not to reflect differences between borderline mothers and control mothers in relation to maternal depression or the degree of emotional and behaviour difficulties experienced by participants' children.

The replication of consistent large effect sizes across these three hypotheses in both the parametric and non-parametric analysis pointed to a relatively robust finding, despite the small N.

4.2.1 Maternal child-centred attributions of negative intent and maternal affect

According to linear models of stimulus-dependent attributions, parents' child-centred attributions of negative or hostile intent may lead to negative emotional responses towards the child, such as anger or irritation. Consistent with this picture, the literature on parental attributions indicates that parents' child-centred attributions of negative intent invoke negative emotional responses. The significantly lower scores for borderline mothers on measures of child-centred negative attributions may therefore suggest that borderline mothers will display relatively low levels of hostility or anger in response to episodes of child misbehaviour. This finding is of particular interest given the general assumption in clinical texts that borderline parents will present with high levels of hostile affect and potentially abusive behaviour (Asen & Schuff, 2004; Adshead *et al.* 2004).

While none of the studies reviewed in relation to borderline parents explicitly explored parents' emotional responses to episodes of misbehaviour, observational studies of maternal behaviour in relation to their infants would appear to be consistent with this finding. For example, in Crandell *et al.*'s (2003) study of borderline mothers with young infants, no significant differences emerged in relation to maternal positive affect or engagement, despite hypotheses to the contrary. Similarly, Newman *et al.* (2007) found that, in contrast to expectation, borderline mothers of three to thirty-six month old infants did not display higher levels of covert or overt hostility in interaction with their children. Further support for this finding is provided by Barnow *et al.* (2006) study of borderline mothers and their 11-18 year old children where youth rated measures of maternal warmth and rejection indicated no significant differences between the children of borderline mothers and the children of mothers without a diagnosis of BPD. The finding that borderline mothers may not display negative or hostile affect in response to negative child behaviour would therefore appear to add to the picture emerging from empirical studies, where borderline mothers have been observed to display low levels of hostile affect. Research explicitly exploring maternal hostile behaviour has hypothesised that the low levels of hostility that have emerged in observations of borderline mothers may indicate that such mothers display more frightened/ helpless behaviour than hostile/frightening behaviour. As parents' affect and behaviour were

not explicitly explored in this study, it is not clear whether these findings specifically reflect this conceptualisation of borderline mothers' behaviour.

4.2.2 Maternal child-centred attributions of negative intent and maternal behaviour

Models of stimulus-dependent attributions further propose that child-centred attributions of negative or hostile intent are related to punitive and authoritarian parenting behaviour . Parents who attribute defiant intention to children display more authoritarian, coercive, harsh and punitive parenting. The significantly lower levels of negative intent attributed to children by borderline mothers may, therefore, indicate that borderline parents display a less punitive parenting style.

Preliminary support for this proposal is provided by the findings of the present study where borderline mothers were found to perceive significantly less punishment to be required in response to child misbehaviour. Research indicates that perceptions of lower levels of punishment on this scale are linked to positive parenting behaviour, while higher scores are associated with coercive and punitive parenting practices (Hasket *et al.*, 2007). The findings of this study would therefore indicate that borderline parents may display positive parenting behaviour rather than punitive parenting behaviour. Consistent with this picture, borderline mothers' levels of maternal warmth, positive affect and engagement were not found to differ significantly from those of control mothers (Barnow *et al.*, 2006; Crandell *et al.*, 2003).

On exploring the index mothers' scores on the punitive scale, it would appear that borderline mothers' scores are located at the far low extreme of the scale, potentially indicating a relatively permissive parenting style, where punishment is rarely considered appropriate even in response to incidents of child misbehaviour that were devised to be more clearly intentional in nature (e.g. 'Shortly after you punished your five year-old, you tell her/him to play quietly with her/his toys. Very soon after this instruction she/he stands up, looks at you in the eye, throws a toy at an expensive lamp, breaks it, and then laughs').

To date no empirical studies of borderline parents have explicitly explored the parenting style of borderline parents. Where maternal behaviour has been explored in the context of borderline mothers, maternal behaviour has been observed to be intrusive, insensitive, withdrawn, hesitant, helpless, frightened or to display a role-reversal of the typical parent-child relationship (Apter-Danon *et al.*, 2005; Crandell *et al.*, 2003; Delvenne *et al.*, 2008; Hobson *et al.*, 2009; Newman *et al.*, 2007). Similarly, in Barnow *et al.*, (2006) youth rated measures of parenting behaviour indicated that the children of borderline mothers viewed

their mothers to be more over-protective than the children of control mothers. Consistent with the finding in this study, these studies would appear to suggest that problematic parenting behaviour in borderline individuals may be less related to explicitly punitive or authoritarian parenting behaviour, and more linked to atypical parenting behaviour, such as insensitive, frightened, role-reversal or over-protective behaviour. The observations of deferential, role-reversal and frightened behaviour in borderline mothers (Hobson *et al.*, 2009; Newman *et al.*, 2007) may be consistent with indications in this study of permissive parenting style where the parent may defer to the child in matters of discipline.

According to Baumrind *et al.,* (1989) parenting typology, the permissive parent is characterised by the tendency to 'behave in a non-punitive, accepting, and affirmative manner toward their children's impulses, desires and actions' (Baumrind, 1989, p. 354). Defined in this way, there would appear to be conceptual overlaps with borderline mothers' significantly lower scores on the Punishment sub-scale and permissive parenting. The literature on parental behaviour indicates that a permissive parenting style may limit children's development of effective self-regulation, impulse control, self-reliance and empathy (Baumrind *et al.,* 1967; Mauro & Harris, 2000; Schaffer *et al.,* 2009), which may in turn predispose children to disruptive behaviour disorders in childhood and antisocial and impulsive behaviour in adolescence (Lamborn *et al.,* 1991; Patock-Peckham *et al.,* 2001; Weiss & Schwarz, 1996). Permissive parenting style has also been linked to lower levels of child supervision and monitoring, leading to increased risk of accidental injury and child sexual abuse (Donenberg *et al.,* 2002; Morrongiello *et al.,* 2006). The indications of a link between borderline mothers and a more permissive parenting approach in the present study may therefore offer an understanding of the increased psychiatric and child protection risk posed to borderline mothers' children. Consistent with this proposed pathway, Feldman *et al.,* (1995) found borderline mothers' children to be at higher risk of exposure to paternal abuse and to sexual abuse by a perpetrator outside of the family, potentially indicating reduced maternal supervision or monitoring, as might transpire with a permissive parenting style. However, as the punitive parenting scale on the Child Vignettes is a measure of punitive parenting practices rather than permissive or lax parenting, this interpretation of the findings should be treated with caution. The possible link between borderline mothers and permissive parenting style may, however, represent an interesting area for future research.

4.2.3 Maternal child-centred attributions of negative intent, perceptions of punishment and abuse

The Negative Attribution, Punishment and Total Score scales of the Child Vignette have been found to differentiate effectively abusive and non-abusive parents. In particular, the Negative Attribution subscale has emerged as a critical cognitive factor in models of abuse (Azar, 1989, 1990; Haskett *et al.,* 2003). The finding that borderline mothers considered lower levels of punishment and attributed significantly less negative intent to incidents of child misbehaviour therefore poses interesting questions in relation to the commonly held assumption that borderline parents may be at higher risk of displaying verbally and physically abusive behaviour in their interactions with their children (Adshead *et al.,* 2004; Asen & Schuff, 2004; Royal Society of Psychiatrists, 2002, 2003)

The presumed link between borderline parents and abuse stems predominantly from clinical case studies (Adshead *et al.,* 2004; Asen & Schuff, 2004) or from studies exploring the prevalence of BPD in the child protection services (Bools *et al.,* 1994; Dinwiddle & Bucholz, 1993; Famularo *et al,.* 1992; Howard *et al.,* 2003; Laporte, 2007). It is possible that the selected focus of these studies has inflated the perceived relationship between BPD and abuse. Only one empirical study explicitly explored the relationship between borderline mothers and abuse. In Feldman *et al.,* 1995, borderline mothers' children experienced higher levels of abuse, trauma and neglect than the children of mothers with other personality disorders. However, where physical and verbal abuse emerged, this appeared to relate to paternal abuse or abuse from someone outside of the family rather than maternal abusive behaviour. Indeed, borderline mothers were found to display significantly less abusive behaviour towards their children than control mothers. Where children's exposure to trauma was linked to borderline mothers, this related to suicidal behaviour, drug or alcohol abuse, multiple household or school changes and placements away from the mother, as opposed to abusive behaviour. The current findings seem to question further the strength of the relationship between borderline mothers and abusive parenting behaviour.

Unpicking the Relationship between Borderline Parents and Abuse: The Possible Role of Subtypes

One possible explanation for the contradictory findings in empirical studies and studies exploring clinical cases, may relate to the differing nature of the parents being studied in these two different research paradigms. The polythetic criteria set for BPD allows different combinations of the diagnostic criteria to equate to a diagnosis of BPD. Co-morbidity with Axis I and Axis II disorders further differentiates the presentations of individuals with BPD

(Critchfield *et al.,* 2008). The intrinsic heterogeneity of the BPD diagnosis has led clinicians and researcher to consider if there may be particular sub-types of BPD. The literature relating to potential subtypes of BPD derives from three main research approaches: factor analysis studies based on the presenting features of individuals with BPD (Critchfield *et al.,* 2008; Clarkin *et al.,* 1993; Sansilow *et al.,* 2000, 2002; Whelwell *et al.,* 2000); aetiological studies exploring differing pathways to BPD (Conklin *et al.,* 2006; Critchfield *et al.,* 2007; Levy *et al.,* 2005; Wilkinson-Ryan & Westen, 2000); and theoretical studies focusing on the emotion dysregulation, intrapsychic and interpersonal characteristics of BPD (Conklin *et al.,* 2006; Leihener *et al.*, 2003; Oldham *et al.,* 1996; Tramantano *et al.,* 2003).

These studies commonly consider identity disturbance and disturbed interpersonal relatedness to be at the core of BPD. However, different subtypes have been proposed to reflect differing levels of identity and self-other disturbance and differing affective and behaviour regulation responses. For example, Whewell *et al.,* 2000 suggest that BPD subtypes may reflect either calming-internalising responses to distress, such as self-harm, suicidal behaviour or the avoidance of separation, or externalising responses to inner turmoil, manifested in aggressive and antagonistic behaviour towards others. Critchfield *et al.,* 2008 highlight similar subtypes and equate these subtypes to the co-morbidity of BPD with either Cluster C disorders, such as dependent, avoidant PD, or Cluster B disorders, such as narcissistic PD. A third subtype, withdrawn, cold, disengaged and antagonistic is also identified and is understood to relate to co-morbidity with Cluster A PDs, such as paranoid and schizotypal PD (Critchfield *et al.,* 2008). A similar picture emerges from theoretical studies. For example, Tramantano *et al.,* suggest that BPD subtypes may reflect different interpersonal response styles in response to regulating inner distress, including 'moving towards' others, 'moving against' others and 'moving away' from others (Tramantano *et al.,* 2003). Aetiological studies consider how these different subtypes may relate to different pathways in relation to attachment, the presence or absence of early trauma and the type of childhood trauma, in particular differentiating childhood sexual abuse from other experiences of abuse or neglect (Conklin *et al.,* 2006).

Drawing on the findings of these studies, it could be proposed that the individuals encountered in clinical case studies and the child protection services may represent a more antagonistic subtype of BPD characterised by a 'moving against' interpersonal style, whereas borderline individuals recruited in empirical studies may be characterised by a more internalising response style typified by a 'moving towards' interpersonal style. In the present study, the absence of measures to assess individuals' borderline symptoms, co-morbid Axis II disorders, attachment style or history of trauma, means it is not possible to verify or reject

this proposition. Controlling for potential variations in the presentation, aetiology and co-morbidity of borderline mothers may, however, be an important consideration for future research in this area, particularly given the small sample sizes that have emerged to date in empirical studies of borderline parents.

Unpicking the Relationship between Borderline Parents and Abuse: The Potential Role of Different Self-States

Alternatively, the gap between the findings in the present study and the picture of hostile, aggressive and abusive behaviour emerging from clinical case studies, may suggest that the mechanism underlying hostile or abusive behaviour in borderline parents differs from that typically found in attribution studies of abusive parents. Transactional models of stimulus-dependent attributions highlight the interactive nature of the relationship between parental affect and parental attributions, whereby parental affect may also influence the nature of parental attributions (Dix, 1991, Miller, 1995). In particular, negative emotional states, such as anger, have been found to increase parents' tendencies to provide negative interpretations of child behaviour (Dix, 1993; Dix *et al.,* 1993; Smith & O'Leary, 1995). It is therefore possible that the picture of borderline mothers' attributions that has emerged in this study may represent maternal attributions within a specific affective state, but may not necessarily be representative of borderline mothers' attributions in alternative affective states. In light of the differentiated nature of the affective states that typify BPD (Arntz *et al.*, 2005; Ryle, 1997; Young *et al.*, 2003), this possibility may be particularly relevant to interpreting the findings of the present study.

Cognitive analytic and schema-focused theories of BPD indicate that borderline individuals may view others as particularly threatening or malevolent in certain reciprocal roles (threatening or humiliating other - loss of control, rage) or schema modes (angry and impulsive child). Although Child Vignettes is designed to elicit typical parental attributions of misbehaviour by instructing parents to imagine the child is their own and by providing details of common incidents of child misbehaviour, it is possible that this measure failed to trigger the affective state shifts that may emerge in the actual interactions between borderline parents and their children.

Clinical case studies seem to suggest that, in face-to-face parent-child interactions, child misbehaviour may trigger spontaneous hostile attributions in borderline parents: 'Even small mistakes, her mother would become rageful towards her and tell her that she "*was the worst child in the world.*"' (Glickauf-Hughes & Mehlman, 1998). However, as these studies draw on experiences of borderline parents presenting with problematic relationship with their

children, such studies are likely to inflate the relationship between borderline mothers and incidents of attributions of hostile intent, negative parental affect and problematic parenting behaviour.

Of interest, anecdotal feedback from clinicians involved in the present study would appear to suggest that the completion of the attribution measures led borderline parents to reflect strongly on their own experiences of parenting, potentially challenging the supposition that attributional measures failed to trigger attributions encountered in actual parent-child interactions. For example, the following feedback was given in e-mail correspondence:

'X struggled to answer the questions hypothetically and tended to personalise the questions to herself. I think this is classic BPD difficulty in perception.'

However, in the absence of a measure of borderline mothers' current 'mode' or 'self-state' prior to and during the completion of the questionnaire, it is difficult truly to ascertain whether the attributions that emerged in this study typify the attributions of borderline mothers in different affective states and the potential role that such state shifts may have on maternal attributions in borderline parents. Future research including measures of the above factors in addition to measures of parent affect and behaviour may provide a clearer understanding of the role of self-states in borderline parents attributions, affect and behaviour.

Unpicking the Relationship between Borderline Parents and Abuse: The Potential Role of Types of Child Behaviour

Alternatively, the discrepancy between the findings in the present study and the picture that emerges from clinical case/child protection may relate to the nature of child behaviour considered in this study. It may be that, unlike in typical models of parental abuse, incidents of misbehaviour are not the core trigger of hostile attributions and negative parental responses in individuals with BPD. In particular, incidents of perceived abandonment or rejection are noted commonly to trigger angry state shifts in borderline (Bender & Skodol, 2007; Clarkin *et al.,* 1992). It is possible that, in contrast to traditional attributional models of abuse, where parental attributions of hostile intent in response to misbehaviour are consistently identified as important moderators/mediators of parental affect and behaviour (Bugental & Johnston, 2000; Miller, 1995), in borderline parents attributions of potential rejection or abandonment may underlie episodes of hostility and potential abuse. Clinical case studies would appear to offer tentative support for this proposition (Asen & Schuff,

2004; Danti *et al.*, 1985; Glickauf-Hughes & Mehlman, 1998; Newman & Stevenson, 2005; Tustin, 2002):

> *'episodes of physical abuse appeared to have occurred when Anne felt she was "just not a good mother" and was rejected by Tessa. Anne related her feelings of rejection to her own rejection by her mother and wondered if Tessa hated her in the same way.'*
>
> (Newman & Stevenson, 2005, p.388)

The potential for perceived abandonment and rejection in parent-child interaction to trigger borderline parents' hostility or anger may be further suggested by the findings of Herr *et al.'s* (2008) study of borderline mothers' adolescent children. This was the only empirical study that focused exclusively on children during the adolescent period. In this study, unlike in the other studies of borderline parents, borderline parents were linked to youth perceptions of increased maternal hostility. Adolescence is conceived to represent the second process of separation-individuation (Blos, 1967); the first stage of separation-individuation is proposed to emerge in the first three years of life as the infant internally and physically separates from the symbiotic relationship with the mother and begins to integrate frustrating and pleasurable aspects of the self and the mother (Mahler, 1974). It is possible that these two stages of the child's development trigger particularly strong abandonment fears for borderline parents, which may in turn precipitate affective shifts to self-states characterised by the angry reciprocal roles (threatening or humiliating other - loss of control, rage) or schema modes (angry and impulsive child). Exploring borderline parents' attributions at different phases of child development or in response to episodes of child behaviour that may be perceived as abandoning may help to develop a clearer picture as to whether maternal hostile attributions emerge in different contexts to those explored in this study.

4.2.4 Mothers' child-centred attributions and the representation of the child

Hostile Representation of the Child

The literature on child attributions indicates that parental attributions may stem from parents' internal working models or schemas of relationships/others. Specifically, Lieberman (1999, 2004) proposes that parental attributions may be viewed as indices of parents' relationships to their child or external clues to parents' internal representations of the parent-child relationship. Consistent with this view, studies exploring the representation of the child and parental attributions in parents with a history abuse, indicate that parental attributions may reflect the representation of the child as assessed by the Working Model of the Child

("WMCI") (Zeanah & Benoit, 1995), a measure of maternal mental representations, and the relative differentiation and integration of mothers' free response perceptions of their babies, (Gara *et al.*, 2000; Schechter *et al.*, 2006).

In the present study, borderline mothers' attributions of significantly less hostile intent to child misbehaviour would, therefore, appear to be inconsistent with a hostile representation of the child. This finding would seem to be in conflict with the consistent picture of a 'malevolent' other that emerges from adult studies of borderline individuals (Arntz *et al.*, 2005; Bhar *et al.*, 2008; Butler *et al.*, 2002; Nigg *et al.*, 1992; Tramantano *et al.*, 2003; Westen, Ludolph *et al.*, 1990), including similar studies of borderline individuals' attributions of adult behaviour (Arntz & Veen, 2001; Barnow *et al.*, 2009) and the exploration of borderline individuals' perceptions of other important adults, such as romantic partners, (Benjamin & Wonderlich, 1994; Bouchard *et al.*, 2009; Goldstein, 2003). However, the potential for borderline parents to hold a less hostile view of their child would seem to be consistent with the findings emerging from empirical studies where borderline mothers were observed to display a more helpless, deferential and frightened parenting style with their infants, rather than a hostile and frightening parenting style, potentially suggesting a view of the child as 'powerful' or 'protective' (Hobson *et al.*, 2009; Newman & Stevenson, 2007).

Idealised Representation of the Child

The responses of borderline mothers on the Negative Attribution sub-scale of Child Vignettes were characterised by extremely low scores, despite a number of items describing child behaviour of more deliberate intent. These findings appear to suggest a potentially 'idealised' representation of the child. This interpretation is consistent with the polarised and dichotimised nature of borderline individuals' representation of the other, where the other is typically characterised by two extremes, idealisation or devaluation, rather than a view in between (Clarkin *et al.*, 2007; Gregory, 2007). While the borderline individuals' interactions with others are proposed frequently to oscillate between different views of the other or shifting self-states, there is 'usually some minimal capacity to maintain object constancy' (Meissner, 1988). The findings in the present study may, therefore, indicate that, where there is some element of object constancy, the child may be represented by the idealised pole.

Literature on borderline individual's interactions with an 'idealised' other describe how the idealised other may be viewed as 'powerful' and 'protective' (Clarkin *et al.*, 2007; Bender & Skodol, 2007; Gregory, 2007; Gunderson, 2007). As might be predicted from cognitive

analytic (idealised, perfectly caring - perfectly cared for) or schema mode (abandoned, vulnerable child - protective, idealised other) theories of this idealised self-state, BPD individuals are proposed to respond to the idealised other by displaying dependent, and submissive behaviour (Clarkin *et al.,* 2007; Bender & Skodol, 2007). It is hypothesised that the view of the self as vulnerable and the other as a source of protection, leads borderline individuals to develop unrealistic expectations of idealised others as a source of rescue (Bender & Skodol, 2007; Gregory, 2007). As a result, borderline individuals respond to idealised others with a sense of helplessness and tend to become deeply emotionally involved, seeking greater proximity, demanding care and displaying clinging behaviour (Clarkin *et al.,* 2007). In considering the literature on the idealised other in relation to the empirical studies of borderline parents, there would seem to be preliminary support for the indications of an idealised representation of the child in the present study. For example, observations of insensitive-intrusive behaviour, role-reversal and over-protective, deferential and helpless maternal behaviour in empirical studies of borderline mothers (Apter-Danon (2005); Barnow *et al.,* 2006; Crandell *et al.,* 2003; Newman & Stevenson, 2007; Hobson *et al.,* 2009) show clear parallels with the dependent, submissive, intense emotional involvement, demanding and clinging behaviour that is characteristic of borderline individuals' interactions with an idealised other.

The descriptions of the idealised other documented in the adult literature may also offer potential insight into how this representation of the child might impact on the child (Clarkin *et al.,* 2007; Bender & Skodol, 2007; Gregory, 2007; Gunderson, 2007). These studies describe how the intense interaction with the borderline individual may in turn draw the idealised other into overstepping typical relationship boundaries to meet the borderline individual's needs. It is possible that similarly the child may feel drawn into meeting borderline parents' needs and may struggle effectively to maintain self-other boundaries, potentially providing an understanding of the role-reversal in the parent-child relationship that emerges in empirical studies (Hobson *et al.,* 2009; Macfie & Swan, 2009).

Borderline individuals' inability to integrate more benign images of the other means the representation of the idealised other may be fragile and vulnerable to collapse in the face of contradictory or more neutral information (Bender & Skodol, 2007). To protect the image of the idealised other, parts of the conflict may be denied or projected. In considering how this might relate to the parent-child interaction, it is possible that, in the denial of benign or contradictory information, borderline mothers might not acknowledge aspects of the idealised child that are incompatible with this image, potentially invalidating the child's

experience of himself. Consistent with this picture, clinical case studies indicate that children of borderline parents may be drawn into maintaining an idealised image:

'In the most subtle ways imaginable, each of these patients gathered the impression that she could be, if she failed to put aside her true self in order to become what her mother wanted, - abandoned.'

(Trout 1991, p. 307)

Alternatively, the idealised image may collapse in response to benign or contradictory information, leading the borderline individual to feel let down and abandoned by the idealised other, which in turn may manifest itself in anger. It may be postulated that, similarly, borderline parent interactions with an idealised child may suddenly display angry state-shifts in response to events that are incompatible with the parents' idealised image of the child, potentially providing an understanding of episodes of maternal hostility emerging in clinical case studies.

The indications of an idealised representation of the child in this study may, therefore, offer a greater understanding of the findings that have emerged from empirical studies of borderline parents, in relation to role-reversal and deferential and intrusive maternal behaviour, and may provide an indication of the potential pathways to episodes of borderline parents' hostility. However, as the Negative Attribution scale on the Child Vignettes is a measure of hostile and negative parental attributions rather than a measure of idealised attributions, or more specifically a measure of the representation of the child, this interpretation of the findings should be considered with caution. Exploring the representation of the child in borderline parents may, however, prove to be a fruitful focus for future research given the current findings and the way these may potentially reflect the emerging picture of maternal behaviour in studies of borderline mothers.

4.3 Maternal Attributions of Adult-Child Control over Negative Caregiver-child Interactions

Hypothesis one and the secondary hypotheses stated that, when variance relating to maternal depression and the degree of children's emotional behaviour difficulties is controlled for, there would be a significant differences between the borderline and control mothers' perceptions of the adult's control, child's control and the relative balance of control in negative parent-child interaction. Contrary to expectation no significant differences emerged in relation to these three aspects of perceptions of control over negative caregiver-child interactions.

However, the small N limited the extent to which the originally proposed analysis of covariance could be conducted. Exploration of the proposed ANCOVAs, and exploratory analysis in relation to the covariants suggested that the influence of maternal depression and the degree of emotional and behavioural difficulties experienced by participants' children might be less critical co-variables than had originally been predicted. However, potential violations of the assumptions of the ANCOVA in relation to these hypotheses, means that it is difficult fully to discount the influence of these covariants in interpreting the findings.

4.3.1 Perceptions of Control over Failure: Parental Affect, Behaviour and Abuse

Parents' perceptions of the relative balance of control attributed to the child and adult in negative child-caregiver interactions (perceived control over failure) are recognised to relate to parent affect and behaviour, including abuse. Low perceptions of control over failure have been equated with defensive emotional arousal and defensive parenting behaviour, including increased autonomic arousal, greater negative affect, verbal derogation, excessive controlling, power assertive or coercive parenting behaviour and abuse. The *absence* of significantly lower perceptions of control over failure in borderline mothers' appears, therefore, to suggest that borderline mothers' are no more likely to respond to their child with verbal or physical hostility, negative affect, controlling parenting behaviour or abuse than mothers with mild to moderate mental health difficulties. This finding would appear to be consistent with the picture that has emerged in the present study and other empirical studies of borderline mothers in relation to parental abuse, hostility and negative affect.

In the absence of a significant difference between borderline mothers and parents with mild to moderate mental health difficulties, it is difficult clearly to interpret these findings. In particular, indications of high levels of psychological distress, maternal depression and personality pathology in the control group may suggest that the absence of a difference across participant groups is instead indicative of clinically significant attributional styles, e.g. low perceived control over failure in both groups of participants. Exploratory analysis of the data suggested that the mean perceived control over failure scores for mothers in the borderline and control group were observably higher than the norms of 159 mothers (Borderline mothers: M_{PCF}=1.13; Mothers with mild-to-moderate mental health difficulties: M_{PCF}=1.43; and Norm sample mothers: M_{PCF}=0.25) (Bugental, 2004). It would therefore seem unlikely that the absence of a significant differences between the two participant group is indicative of relatively low perceived control over failure in both groups.

4.3.2 Perceived control over Failure and Child Control over failure: Representation of the Child

Hostile Representation of the Child

The Parent Attribution Test is proposed to activate parents' threatening schemas of others. Parents with low perceived balance of power are hypothesised to be hypervigilant to signs of threat in the child, such as unresponsive behaviour, non-compliance, demanding or challenging behaviour, and frequently to misinterpret ambiguous or negative caregiver interactions as potentially threatening to the self (Bugental *et al.*, 1993, 1996, 1997). The literature from borderline representation of the other in adult-based experimental studies would seem consistent with such 'threatening schemas of others'. It might therefore be hypothesised that borderline individuals would present with significantly lower perceived balance of power. The absence of a significant differences between the perceived balance of power scores of borderline mothers and mothers in the control group may, therefore, indicate that the hostile view of others that commonly emerges in studies of adults is not reflected in the present study. According to Bugental *et al.* (1993, 1996, 1997) low perceived balance of power is specifically equated with threatening perceptions of the child and threatening perceptions of the child misbehaviour, non-compliance or challenging behaviour. These findings may therefore indicate that borderline mothers' representation of the child is not compatible with the threatening view that typifies borderline individuals' representations of other adults. The absence of significantly lower scores on the Perceived Control over Failure sub-scale would, therefore, appear potentially to corroborate the representation of the child that emerged on the Child Vignettes, further challenging the view of a hostile other that characterises clinical texts on borderline parents (Adshead *et al.*, 2004; Asen & Schuff, 2004).

Idealised Representation of the Child

In considering the possibility that borderline mothers' representations of the child may reflect an idealised position, the study hypothesised that, relative to mothers in the control group, significant differences would emerge in borderline mothers' attributions of the control attributed to the child and adult in unsuccessful adult-child interactions. In particular, it was expected that parents with an idealised image of the child would attribute significantly less control to the child in relation to failure ("CCF") and significantly greater control to the adult in relation to failure ("ACF"), leading to higher perceived control over failure scores ("PCF"). The absence of any significant differences between borderline mothers and mothers with mild to moderate mental health difficulties across the CCF, ACF and PCF sub-scales

would appear to be inconsistent with the idealised representation of the child that was indicated by the findings in relation to the Child Vignettes.
Comparisons with the norm scores for the PAT indicate that, relative to the mothers in the normative sample, the mothers in this study may attribute greater control to the adult in unsuccessful adult-child caregiver interactions (Borderline mothers: M_{ACF}=4.39; Mothers with mild to moderate mental health difficulties: M_{ACF}=4.78; and Norm sample mothers: M_{ACF}=3.98) and may attribute less control to the child (Borderline mothers: M_{CCF}=3.26; Mothers with mild to moderate mental health difficulties: M_{CCF}=3.35; and Normal sample mothers: M_{CCF}=3.73) (Bugental, 2004). These findings would not, therefore, appear to be entirely inconsistent with an idealised representation of the child. However, the absence of any significant difference between the participants groups limits any interpretation of these results.

In contrast to the Child Vignettes, where the parent is asked to imagine that the child in the vignettes is their own, the Parent Attribution Test is deliberately ambiguous, in order to prompt schema-level attributions. The two examples of caregiver-child interaction on the PAT relate to successful and unsuccessful interaction with a neighbour's child. It is possible that by prompting parents to consider an interaction with a neighbour's child, the PAT may tap more general level schemas relating to children as opposed to tapping parents' representation of their own child. If this is the case, these findings may suggest that the hostile other representation is not only inactive in parents' representations of their own child, but may also be inactive in the representation of children more generally. This may represent an interesting area for future research.

Alternatively, it is possible that within this study there are real effects existing in the comparisons of borderline and non-borderline mothers on the Parent Attribution Test. However, the effect size may be much lower than the unusually large effect size that emerged from studies of abusive parents' scores on the PAT. The insufficient sample size and problems with adequate power may limit the ability of this study to detect smaller effect sizes leading to the possibility of a Type II error, whereby the null hypothesis is accepted when it should in fact be rejected. In addition, the inability of the current study adequately to consider potentially interactive covariants, such as maternal depression, in relation to the PAT, may mean that effects are further masked by the confounding covariants, such as depression. In particular, the case series analysis of mothers' scores on the PAT highlighted the potential confounding role of differences in the age and number of children in index and control groups. It is possible that these variables further mask any clinical effect.

A retrospective post-hoc power analysis could be considered to provide a clearer picture of the power in relation to the hypotheses. As in an a priori power analysis, a post hoc power analysis acts to determine the power of the study, i.e. the probability of avoiding a Type II error (Baguley, 2004). For example, if a post hoc power analysis indicated a probability of 0.90, this would be interpreted as the capacity of the study to detect significance with a probability of 0.90, i.e.an effect would be detected 90 times out of 100. However, post-hoc power analysis is considered by many to be fundamentally flawed (Hoenig & Heisey, 2001; Zumbo & Hubley, 1998). In conducting a post hoc power analysis, researchers' calculations of the population effect size are based on the effect size that emerges from the study data. As a result, post hoc power analysis is purely a function of the effect size observed in the study and hence of the probability that emerges from the study. In small sample studies, the post hoc power is a reflection of a limited range of effect sizes and is therefore likely to give an inaccurate picture of the true power of the study. Since post hoc power analysis is simply a function of the sample effect size, where data analysis indicates a significant result, the power observed will be high. Similarly, where data analysis indicates a non-significant result, the power observed will be low (Baguley, 2004). Thus post-hoc power analysis can falsely inflate researchers' confidence in significant or non-significant results. It has not, therefore, been adopted in the present study.

The a priori power analysis and the significant results relating to the Child Vignettes indicate that this study may have sufficient power to detect the large effect sizes that have typically emerged in empirical studies of borderline parents. However, caution should be applied in accepting the null hypotheses in relation to PAT, due to the aforementioned concerns around Type II errors.

4.4. Methodological Weaknesses and Limitations

A number of limitations and methodological weaknesses should be considered in interpreting the findings of the present study.

4.4.1 Design

Inclusion Criteria

The inclusion criteria for both groups of participants specified that individuals should have a parental role with a child between the age of three and sixteen. This wide age range was adopted as it was recognised that the potential population of mothers in the index group was relatively small. The specific minimal and maximum age cut-offs were selected to reflect the

target age range of the Strength and Difficulties Questionnaire, to allow comparisons on this covariant across the participant groups. However, it became apparent during the recruitment phase of the study that this specific age range may have further limited the potential recruitment population. In particular, clinicians frequently noted that their clients had children in a younger age brackets or in an older age bracket, but few clients had children in between these age brackets. At first it was not clear whether this was simply an incidental finding. However, as this recruitment issue arose across different recruitment sites, it became clear that this may reflect a clinically meaningful pattern.

Within the field of family therapy, the birth of young children and the departure of children from the family home are recognised to be key family life cycle transitions, marked by the acceptance of new members into the system and the acceptance of multiple exits from and entries into the family system, respectively (McGoldrick & Carter, 2003). During these phases, key emotional processes and second order changes in the family status need to occur to allow the development of the family system. According to family life cycle theory, stress is often greatest at the point of transition from one stage to another. It is possible that these key life cycle transitions represent times when parents may be more likely to present with increased psychological distress and to seek support from mental health services. The decision to include only parents within the period between these key life cycle transitions may, therefore, have significantly narrowed the potential recruitment population, thereby contributing to the small sample size found in this study. This pattern was particularly striking in the recruitment of mothers for the control group, where difficulties with recruitment had not been anticipated.

The core inclusion criteria for index parents was specified as 'a confirmed and known diagnosis of a Cluster B personality disorder'. During the recruitment phase of the study, it transpired that defining the index group in this way further limited the potential recruitment population. Clinicians frequently observed that a number of clients on their case load would be considered to meet the criteria for a Cluster B PD, but either had been given an alternative, less stigmatising diagnosis, or had not been provided with a diagnosis due to concerns over how he/she would respond to the diagnostic label.

'I have a lady who I think has a pers. Disorder who is also a parent who I think would agree to your study...however her pers. disorder diagnosis hasn't been confirmed by a psychiatrist. Not sure we'd go down that route - think she'd disengage with treatment.'

'Sounds like an interesting project. One of the problems will be finding people with a formal PD diagnosis. Psychiatry are still not using it as often as they perhaps should, tend to use bipolar diagnosis or PDNOS instead, and psychologists probably don't use because it still has pejorative conotations.'

'Think the prob is there are lots of people that prob have PD but they don't have a proper diagnosis. I quite often hear the nurses saying that the consultants are reluctant to give PD diagnosis even though it is the most obvious problem'

In addition, and perhaps of particular concern, a number of clinicians noted that clients on their case load had been given a diagnosis of a Cluster B PD but were not themselves aware of this diagnostic label.

'Just to let you know that we may have a participant from CMHT. She doesn't know about the diagnosis - is that ok? Will get back to you as soon as possible.'

These findings are consistent with a recent study conducted within Lothian with individuals with BPD (Consultation & Advocacy Promotion Service, 2010). Individuals participating in this study described commonly being unaware of their diagnosis until it was inadvertently disclosed in correspondence between health professionals or in other inappropriate ways, such as letters from occupational health or seeing references to the label in their clinical notes. In this study, interestingly, being provided with a diagnosis of BPD was viewed as a helpful experience, both in terms of helping clients to begin to make sense of their presenting symptoms and in terms of facilitating clients' access to appropriate resources and treatment. Similarly, studies have indicated that where individuals are seeking to understand their presentation, being given a diagnosis of a personality disorder may be experienced as a helpful and positive step (Haigh 2002; Ramon *et al.*, 2001). The introduction of clinical guidelines for BPD (NICE, 2009) and the development of integrated care pathways for individual with BPD in Scotland indicate that this diagnostic label may increasingly ensure that individuals with BPD are able to access appropriate services for their needs. It is possible that with this shift, clinicians may begin to reconsider whether it is appropriate to withhold this information from clients. However, the experiences of recruiting individuals for this study has indicated that currently the perception of personality disorder as a diagnosis of exclusion with potentially pejorative connotations continues to be assumed by many clinicians.

The difficulties encountered in recruitment in relation to the inclusion criteria suggest that it might have been helpful to focus on mothers of younger infants and to have considered an alternative criteria for defining index mothers. In considering the design for the present study, the possibility of adopting a diagnostic measure for index parents in the study was considered as an alternative to recruiting clients with a confirmed and know diagnosis. However, concerns were raised about the ethical issues encountered in identifying a PD in an individual with no previous awareness of this condition and in relation to how this information would or would not be fed back to participants. It was also recognised that the potential for participants to be diagnosed with a PD as part of the study might be a barrier to recruitment, both in relation to clinicians' concerns about clients participating in the study, and in relation to the potential participant's decision whether or not to take part in the study. These issues highlight why this area of research has proved consistently to be so challenging to researchers (British Psychology Society, 2006; National Institute for Mental Health in England, 2003; NICE, 2009).

In retrospect, it may have been more appropriate to consider a screening measure for borderline pathology, such as the BPD items on the SCID-II-PQ, the McLean Screening Instrument for Borderline Personality Disorder ("MSI-BPD") (Zanarini *et al.,* 2003) or the Borderline Personality Questionnaire ("BPQ") (Poreh *et al.,* 2006). Although these measures are recognised to have less positive predictive power, sensitivity, specificity and reliability than more comprehensive diagnostic interviews (Chanen, 2008), adopting a more dimensional measure of BPD would potentially have allowed for the recruitment of a larger sample size, while avoiding some of the ethical issues encountered with using diagnostic measures for screening. While dimensional measures of borderline pathology may be less generalisable to the clinical population, this may have been a more appropriate design for an exploratory study of this nature.

Sampling of Mothers for the Control and Index Group

In a case-control study, to avoid potential sampling bias, the population of the control group should be closely matched to that of the index group (Mann, 2003). For example, the control group could be sampled in the same way as the index group, e.g. by attending the same outpatient department; could be recruited from the same population as the index group; or could be matched closely with the index group, to reduce sampling bias (Mann, 2003).

Given the difficulties experienced by previous studies in recruiting borderline parents, the recruitment sites for index parents included non-NHS recruitment sites as well as NHS sites.

Similarly, the recruitment sites for index mothers covered a wider geographical area and covered a wider range of mental health support than for the control group, which was recruited exclusively through psychological intervention services in NHS Fife and NHS Lothian. Originally, it had been expected that the higher number of mothers in the control group would allow mothers to be closely matched on demographic data, prior to conducting the data analysis. However, this did not prove to be possible with such a small sample size. It is therefore possible that the recruitment design in this study may have inflated sampling bias, which may have allowed greater differences in the control and index groups to emerge. Wider variations across the index and control groups may mean that other potentially confounding variables differ across groups. This may then raise questions as to whether the significant differences identified in the study reflect incidental differences between the participant groups rather than the key independent variable being explored. The potential role of covariants is considered in more detail in Section 4.4.4.

4.4.2 Sample Size

Despite adopting a long time period for recruitment and seeking to recruit participants from a wide geographical area, the study struggled to recruit sufficient numbers of individuals to the index and control group. In addition to the difficulties encountered in recruitment as a result of the inclusion criteria, the recruitment of index parents was further complicated by the core difficulties experienced by individuals with BPD. For example, the high levels of distress, self-harm and suicidal behaviour presented by BPD meant that many clients entered periods of crisis during the period of recruitment that prevented them from ultimately participating in the study. The interpersonal difficulties experienced by borderline individuals also meant that clinicians were often reluctant to approach clients to participate in the study for fear of disrupting the fragile therapeutic relationship. Difficulties with clients' engagement with mental health services further hindered recruitment; in particular, potential participants were identified by clinicians, but were not approached as they failed to attend appointments. This was particularly apparent in the recruitment of participants via psychiatrists who often had the most contact with individuals with BPD, but also had the most challenging relationship with potential participants, due to their role in compulsory treatment orders and as gatekeeper to inpatient services.

'I have had intended to try to recruit 2 people
The first: X: she DNAed my appointment and has been referred to IHTT as she is currently in crisis.
the second: Y, she DNAed my appointment as well and has not responded to subsequent correspondence, sorry.'

The low sample sizes in this study raise concerns over the potential for Type I and Type II errors. As detailed in section 4.3.2, smaller sample sizes increase the risk of Type II errors, as there may be insufficient power to detect the presence of an existing effect.

Small samples sizes may also increase the risk of Type I errors. In smaller sample sizes, greater sampling error is likely to have been encountered, leading to greater standard error, with the sampling distribution of the means being more widely dispersed around the population mean (Christley, 2010). With small samples, the data may not therefore accurately reflect the distribution of the underlying population. This may result in higher alpha levels, so that the threshold for recognising a significant result is inadvertently reduced, i.e. a smaller observed difference in the means will be judged to be significant. These concerns indicate that caution should be applied in considering the statistical significance of the results in the present study. However, the replication of large effect sizes across the three core hypotheses for the Child Vignettes in both non-parametric and parametric analysis would seem to give greater credibility to the conclusion that these results reflect a genuine effect.

Generalisability

The limited sample size may also limit the generalisability of the findings to the wider population of individuals with BPD. In particular, in the index group, it appeared from clinician feedback that recruitment biases might have emerged. For example, clinicians spoke of feeling apprehensive about broaching the study with some borderline clients due to concerns over the fragility of the therapeutic relationship. It is possible, therefore, that clinicians may have tended to approach borderline individuals who presented with less significant interpersonal problems or less emotional vulnerability. Difficulties recruiting individuals with more unstable presentation (i.e. frequently in crisis) or with a history of poor engagement with services may also have led to the recruitment of individuals with less severe borderline presentations. Similarly, within the voluntary mental health services, participants often actively sought to participate in the study, suggesting that these participants may present with a more stable presentation or a less damaged interpersonal style. Given the heterogeneity of the BPD diagnosis, these potential recruitment biases may suggest that a particular subtype of BPD may be over-represented in the findings. The generalisability of these findings to the wider BPD population should therefore be considered with caution.

4.4.3 Measures

Presence of Borderline Personality Disorder

The presence of BPD in index mothers was assessed by accessing diagnostic information from participants' clinicians or case notes. While the data collected seemed to indicate that the process of diagnosis was relatively homogeneous across participants, with all participants being diagnosed by a consultant psychiatrist in Scotland using DSM-III or DSM-IV, it was not possible to gain a clear picture of the actual basis of the diagnosis. Research suggests that the process of establishing PD diagnosis in clinical practice may vary significantly from the diagnostic processes adopted in research, with the process in clinical practice being less rigorous as less tightly confined by the DSM-IV interview schedule (Westen, 1997). It is possible, therefore, that the index mothers participating in this research may not all necessarily meet the criteria for BPD as applied in a rigorous research setting.

In addition, the study did not seek to control for the time since diagnosis. Longitudinal studies of BPD have indicated that there is a decline over time in the impulsive symptoms of BPD, such as self-harm, suicidal behaviour, with over 50% of individuals no longer meeting the diagnostic criteria for BPD after six years (Zanarini *et al.,* 2003). The affective, identity and interpersonal disturbances that characterise BPD appear, however, to be more resistant to change over time. In the present study, the time since diagnosis ranged between 2 and 15 years, indicating that a number of participants might potentially no longer have met the criteria for BPD. On the Beck Depression Inventory-II, however, all index participants responded to the item on suicidal ideation with the response, 'I would like to kill myself' or 'I would kill myself if I had the chance', suggesting that all participants displayed active suicidal ideation at the time of the study. This finding would appear to indicate that all the participants were still struggling with borderline pathology. In addition, as this study is focused on the identity and interpersonal disturbances in BPD, the time since diagnosis may be less critical to this study.

Due to the high levels of co-morbidity commonly found with BPD, the study did not seek to exclude individuals with co-morbid Axis II or Axis I disorders. This may have potentially introduced further hetereogeneity into the sample.

Despite these potential sources of variation in the index group, the variance of index mothers' data on the dependent variables displayed no clear outliers and was generally tightly clustered, suggesting that the borderline mother represented a relatively homogenous group in relation to maternal attributions.

Child Vignettes

As outlined in the methodology section, the Child Vignette measure adopted in this study included the slight rephrasing of a number of items to reflect cultural differences between Britain and America, and was presented to participants in a written format rather than being presented verbally and visually by the researcher, as has been the case in previous studies. These changes may raise concerns over the relative validity and the reliability of the format of the CV adopted in this study. Assessment of the reliability and validity of the CV (Appendix 7) indicated that the modified scale displayed excellent internal consistency. As in the original format, a strong positive correlation emerged between the Negative Attribution and Punishment sub-scales. As would be predicted from the literature of stimulus-dependent parental attributions, the overall scale and sub-scales displayed small to large positive correlations with maternal depression and the level of emotional and behavioural difficulties experienced by participants' children. These findings would suggest that the modified format continues to be a valid and reliable measure of parents attributions of negative intent. However, the validity and reliability of the measure could possibly be further strengthened by additional research directly comparing the scores of mothers responding to an orally presented format of the CV with those of mothers completing the measure in a questionnaire format.

4.4.4. Mediator, Moderator and Confounding Variables

Models of stimulus-dependent attributions and attributional style indicate that a number of different proximal and distal factors may mediate or moderate parental attributions. Significant variations in these variables across the index and control group may potentially confound the influence of the independent variable (presence or absence of BPD), making it more difficult to attribute significant results conclusively to differences in the independent variable. Given the sampling bias that may have emerged with the study design, the inability to match participants prior to analysis and the significant variation found in the control group, the potential role of covariants may be particularly relevant in interpreting the findings of the present study.

Maternal Depression

The absence of significant differences in maternal depression between borderline mothers and mothers in the control group and the typically moderate correlations between the dependent variables and maternal depression suggested that maternal depression might be less critical to the analysis that originally predicated. However, case series analysis suggested

that maternal depression might relate to mothers' scores on the attribution measures. Maternal depression may, therefore, still represent a potentially important confounding variable. Exploratory ANCOVAs suggested that the findings were maintained after controlling for maternal depression. However, the ability of the ANCOVA to control for maternal depression in relation to the PAT subscales and Punishment subscale (CV) is more questionable. Replicating the findings on the PAT and the Punishment subscale with a larger sample size, where depression may be reliably controlled for, would add greater weight to the findings and the conclusions that can be drawn from them.

Children's Emotional and Behavioural Difficulties

The findings relating to the level of emotional and behavioural difficulties experienced by participants' children indicated that this variable may be relatively weakly correlated with maternal attributions and may show a negligible relationship with some of the dependent variables. In addition, no significant differences between borderline parents and control parents emerged in relation to the overall scale or to four of the five sub-scales, with maternal perceptions of children's peer related problems being the only significant difference. These findings suggest that the degree of children's emotional and behavioural difficulties may be a less critical covariant that originally hypothesised. Similarly, case series analysis indicated that this covariant was not of great relevance to index and control mothers' scores on the dependent variables. However, the relatively large correlation between maternal depression and children's emotional and behavioural difficulties and the coincidence in the control group of higher levels of children's emotional and behavioural difficulties with higher levels of maternal psychological distress and personality pathology made it more difficult to ascertain the importance of this covarience in the analysis. Exploratory ANCOVAs suggested that the findings were maintained after controlling for children's emotional and behaviour difficulties. However, the ability of the ANCOVA to control for children's emotional and behavioural difficulties in relation to the ACF sub-scale on the PAT is more questionable. As with maternal depression, replicating the findings on the PAT with a larger sample size, where the level of children's emotional and behavioural difficulties may be reliably controlled for, would add greater weight to these findings and the conclusions that can be drawn from them.

Age and Number of Children

Case series analysis indicated that the age and number of children might be potentially important moderating variables in relation to the PAT. This may be of particular relevance to the present study, where borderline mothers were noted to have significantly older children

and more, although not significantly more, children. The literature on parental attribution indicates that children's behaviour is considered to be increasingly intentional, dispositional, internal, stable and global with the increasing age of the child (Dix *et al.*, 1996; Miller, 1995). These findings suggest that parents with older children might attribute greater control to the child in adult-child interactions. While the PAT is proposed to be a measure of schematic attributions and, therefore, to be relatively resistant to distal factors (Bugental, 2004) such as the age of the child, it is possible that, by including an age related measure immediately prior to the PAT in the questionnaire, parents may have been primed to attribute an age to the target child and may have responded in line with the age of their own children.

The relationship between number of children and parental attributions has been less extensively studied. However, the existing research suggests that, relative to mothers with larger families, mothers with smaller family size tend to attribute variations in child behaviour to parenting factors rather than factors relating to the child (Miller, 1995). It may, therefore, be hypothesised that parents with larger family sizes may tend to attribute greater control to the child in adult-child interactions. If the child's age and family size did interact with the PAT as hypothesized, differences in the age of children and family size in the index group might be expected to lead to higher child control over failure scores and lower perceived control over failure and adult control over failure scores. The co-variables may, therefore, represent important confounding variables in interpreting the hypothesis relating to the PAT. Case series analysis indicates the importance of considering these covariants in future studies of parental attributions, particularly in studies such as this, where the small sample size may accentuate the variance between control and index groups.

Personality Pathology of Mothers in the Control Group

Finally, the case series analysis indicated the potentially confounding role of personality pathology in the maternal attributions of mothers in the control group. The high levels of personality pathology in the control group was an unexpected finding in this study, as clinicians were encouraged to recruit individuals in the mild to moderate range, with recruitment often focusing on services with milder presentations. It would appear, however, from mothers' scores on measures of psychological distress, personality pathology and maternal depression, that a number of the mothers in the control group may present with more significant mental health difficulties, including potential personality difficulties. While, the SCID-II-PQ is a diagnostic screening instrument, and is not necessarily indicative of actual PD diagnosis, the high levels of personality pathology in this study would appear to suggest the potential presence of PDs in the control group. Consistent with this finding,

studies indicate that over a third of individuals in outpatient mental health services meet the criteria for one of the ten DSM-IV PDs (Zimmerman *et al.,* 2005).

In particular, mothers in the control group presented with high levels of Cluster C personality pathology, particularly avoidant and obsesssive-compulsive personality traits, and two of the mothers presented with Cluster A personality pathology. Like BPD, these personality disorders are characterised by dysfunctional views of the self and other. Avoidant PD is postulated to relate to beliefs of the self as inept or inferior and of the other as potentially rejecting (Dreesen *et al.,* 1999), while obsessive-compulsive disorder is linked to beliefs of the other as lazy or incompetent and the self as superior in relation to moral values or standards of conscientiousness (Abramowitz *et al.,* 2010). Finally, schizotypal and paranoid PDs are associated with a view of others as untrustworthy (Livesley & Schroeder, 1990). It is possible that the views of the self and others that may emerge in the context of these Cluster C and Cluster A personality traits may act to moderate the attributions of mothers in the control group, potentially confounding the differences between index and control mothers.

Of particular note, BPD, itself, displays high comorbidity with Cluster A & C personality disorders, particularly Paranoid PD and Dependent PD (Zanarini *et al.* 1998). The high prevalence of Cluster A & C found in the mothers in the control group may, therefore, call into question whether the control group was sufficiently distinct from the borderline group and may lead to speculation on what aspects of the borderline group differentiated this group from the control group. Literature exploring the comorbidity of BPD with Cluster A and C personality disorders postulates that such comorbidity may reflect common personality traits across these disorders; Cluster A personality disorders and BPD are considered to present with low agreeableness, while Cluster C personality disorders and BPD are proposed to present with high neuroticism (Trull *et al.* 2003, 2005). Both high neuroticism (negative affectivity) and low agreeableness are recognised to converge on a negative view of others (Trull *et al.* 2003, 2005). It is possible, therefore, that the presence of Cluster A and C personality disorders in the control group may have overshadowed any negative parental attributions of children's behaviour in the BPD group as a negative view of the child may have been equally present in the control group. In contrast, the idealised view of others that is hypothesised to emerge in response to disorganised attachment experiences and childhood abuse/neglect, is considered to be more specific to BPD and Cluster B personality disorders (Zanarini, 2000). It is, therefore, likely that this aspect of BPD differentiates the borderline group from the control group, potentially accounting for differences in the idealised view of the child being more pronounced. Although, the current data does not appear to be consistent with a negative view of the child across both participant groups (borderline mothers' scores

on the Child Vignettes were at the far positive extreme on this measure, while both participant groups' responses on the PAT were less negative than the equivalent scores of the normal sample), replicating these findings with a more narrowly focused control group, where the level of personality pathology is considered within the analysis, would strengthen the current findings.

4.5 Conclusions

Despite the limitations of the small N, a number of findings emerged that are potentially of clinical significance. In particular, a consistent picture emerged across parental attribution measures, supported by large effect sizes, with the following key findings:

I.Borderline mothers' attributions of child behaviour and adult-child interactions were suggestive of low hostile parental affect or punitive and abusive behaviour;
II.Borderline mothers' responses to incidents of child behaviour were not indicative of punitive parenting behaviour; and

III.Borderline mothers' responses to parent attribution measures suggested an absence of threatening or hostile attributions of the child, unlike the hostile representation of others that emerges consistently from studies of borderline individuals' representation of other adults.

These findings, which are consistent with the picture that emerges from empirical studies of borderline mothers, where maternal behaviour is characterised as helpless and frightened as opposed to hostile and frightening, potentially call into question the assumptions of hostile, abusive parenting in borderline parents that dominate clinical texts.

Alternatively, or additionally, these findings suggest that the pathway underlying hostile and abusive responses in borderline parents may differ from that typically found in the wider literature on parental hostility and abuse. The negative findings emerging in relation to punitive parenting and the absence of threatening or hostile attributions of the child in borderline mothers were also considered to be indicative of a permissive parenting style and an idealised representation of the child in borderline mothers, potentially offering new insights into the possible mechanisms underlying the risk to children of borderline parents.

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Appendix 1

DSM-IV Personality Disorders

Personality traits are enduring patterns of perceiving, relating to, and thinking about the environment and oneself that are exhibited in a wide range of social and personal contexts. Only when personality traits are inflexible and maladaptive and cause significant functional impairment or subjective distress do they constitute Personality Disorders.

Criteria A:
The essential feature of a Personality Disorder is an enduring patterns of inner experience and behavior that deviates markedly from the expectations of the individual's culture and is manifested in at least two of the following areas:

1. cognition (perception and interpretation of self, others and events);
2. affectivity (the range, intensity,lability, and appropriateness of emotional response);
3. interpersonal functioning;
4. impulse control.

Criteria B:
The enduring pattern is inflexible and pervasive across a broad range of personal and social situations.

Criteria C:
The enduring pattern leads to clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Criteria D:
The pattern is stable and of long duration and its onset can be traced back at least to adolescence or early adulthood.

Criteria E:
The enduring pattern is not better accounted for as a manifestation or consequence of another mental disorder.

Criteria F:
The enduring pattern is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication, exposure to a toxin) or a general medical condition (e.g., head trauma).

Appendix 1

ICD-10 F60 Specific Personality Disorder

Criteria 1:

Evidence that the individual's characteristic and enduring patterns of inner experience and behaviour deviate markedly as a whole from the culturally expected and accepted range (or 'norm'). Such deviation must be manifest in more than one of the following areas:

1. cognition (i.e. ways of perceiving and interpreting things, people and events; forming attitudes and images of self and others);
2. affectivity (range, intensity and appropriateness of emotional arousaland response);
3. control over impulses and need gratification;
4. relating to others and manner of handling interpersonal situations.

Criteria 2:

The deviation must manifest itself pervasively as behaviour that is inflexible, maladaptive, or otherwise dysfunctional across a broad range of personal and social situations (i.e. not being limited to one specific 'triggering' stimulus or situation).

Criteria 3:

There is personal distress, or adverse impact on the social environment, or both, clearly attributable to the behaviour referred to under criteria 2.

Criteria 4:

There must be evidence that the deviation is stable and of long duration, having its onset in late childhood or adolescence.

Criteria 5:

The deviation cannot be explained as a manifestation or consequence of other adult mental disorders, although episodic or chronic conditions from sections F0 to F7 of this classification may co-exist, or be superimposed on it.

Criteria 6:

Organic brain disease, injury, or dysfunction must be excluded as possible cause of the deviation (if such organic causation is demonstrable, use category F07).

Appendix 2

DSM-IV Borderline Personality Disorder

A pervasive pattern of instability of interpersonal relationships, self-image, and affects, and marked impulsivity beginning by early adulthood and present in a variety of contexts, as indicated by five (or more) of the following:

1. frantic efforts to avoid real or imagined abandonment. Note: Do not include suicidal or self-mutilating behavior covered in Criterion 5.

2. a pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation.

3. identity disturbance: markedly and persistently unstable self-image or sense of self.

4. impulsivity in at least two areas that are potentially self-damaging (e.g., spending, sex, substance abuse, reckless driving, binge eating). Note: Do not include suicidal or self-mutilating behavior covered in Criterion 5.

5. recurrent suicidal behavior, gestures, or threats, or self-mutilating behavior

6. affective instability due to a marked reactivity of mood (e.g., intense episodic dysphoria, irritability, or anxiety usually lasting a few hours and only rarely more than a few days).

7. chronic feelings of emptiness

8. inappropriate, intense anger or difficulty controlling anger (e.g., frequent displays of temper, constant anger, recurrent physical fights)

9. transient, stress-related paranoid ideation or severe dissociative symptoms

Appendix 2

ICD-10 Emotionally Unstable Personality Disorder

F60.31 Borderline type

Criteria A:

The general criteria of personality disorder (F60) must be met.

Criteria B:

At least three of the symptoms mentioned in criterion B (Impulsive subtype: F60.30) must be present, and in addition at

least two of the following:

1. Disturbances in and uncertainty about self-image, aims and internal preferences (including sexual).
2. Liability to become involved in intense and unstable relationships, often leading to emotional crises.
3. Excessive efforts to avoid abandonment.
4. Recurrent threats or acts of self-harm.
5. Chronic feelings of emptiness.

F60.30 Impulsive type

Criteria A:

The general criteria of personality disorder (F60) must be met.

Criteria B:

At least three of the following must be present, one of which is (2):

1. A marked tendency to act unexpectedly and without consideration of the consequences.
2. A marked tendency to quarrelsome behaviour and to conflicts with others, especially when impulsive acts are thwarted or criticized.
3. Liability to outbursts of anger or violence, with inability to control the resulting behavioural explosions.
4. Difficulty in maintaining any course of action that offers no immediate reward.
5. Unstable and capricious mood.

Table 1: Empirical Studies focusing on Parents with Borderline Personality Disorder or Borderline Pathology

	Participant	Recruitment Population	Independent Variable	Dependent Variables	Covariants & Statistical Analysis	Limitations	Findings
1995 Feldman *et al.*	Index Mothers: 9 families of mothers with BPD & their 21 children (6 current BPD, 3 Hx BPD) Control Mothers: 14 families of mothers & 23 children - mothers other PD (histrionic, dependent & avoidant) Children: Over age of 4 years, predominantly cared for by mother.	Current or former psychiatric patients from psychiatric department	BPD diagnosed on Diagnostic Interview for Borderlines-Revised Diagnostic Interview for Personality Disorders	Family trauma & resilience interview (FTRI) Family Environment Scale (FES) Family Satisfaction Scale (FSS)	Control group: Axis II disorder Chi-squared, t-tests on FTRI T-tests on FES T-tests FSS Multiple tests conducted	Children as unit of analysis rather than families (leads to replication of mother factor) Depression and other Axis 1 disorders not controlled for. Did not control for other covariants such as substance misuse, paternal influences or childhood temperament. Potential type II error: small sample size, no evidence of a prior power analysis Type 1 error: small sample size, no adjustment for multiple statistical analysis with a Bonferroni correction.	FAMILY: FTRI: Borderline mothers: Increased changes in household, school due to family mobility, more frequent placement of children away from mothers (8 children of 3 families living away from mother at time of study), increased exposure to drug/alcohol abusing parent, increased exposure to maternal & paternal suicides, including witnessing suicide attempts, increased exposure to paternal verbal abuse. Fathers in both groups were not protective, frequently absent, or verbally abusive, likely to abuse drugs/alcholol & disruptive. Controls mothers significantly more likely to be physically abusive than borderline mothers. High levels of sexual abuse by another perpetrator and verbal abuse by both parents in both groups. FES: Maternal rated FES- significantly lower cohesion and organisation (classified as disorganised family environments) - not significant in children's reports and significant discrepancy in individual child vs mother reports. Both BPD and other PD groups had high conflict scores and low personal growth scores. FSS: No significant difference, low levels of family satisfaction in both groups.

	Participant	Recruitment Population	Independent Variable	Dependent Variables	Covariants & Statistical Analysis	Limitations	Findings
1996 Weiss et al.	Index Mothers: 9 Mothers BPD & their 21 children (6 current BPD, 3 Hx BPD) Controls Mothers: 14 Mothers, other PD & 23 children (2 histrionic, 1 avoidant, 4 dependent, 6 NOS) Children Over age of 4 years, predominantly cared for by mother.	Patients from psychiatric department	BPD diagnosed on Diagnostic Interview for Borderlines-Revised Diagnostic Interview for Personality Disorders	Family trauma & resilience interview (FTRI) Kiddies Schedule For Affective Disorders and Schizohprenia-Episodic Version Child Global Assessment Schedule (CGAS) Child Diagnostic Interview for Borderlines (CDIB)	Level of trauma Axis II disorder Multiple comparisons of means (t-test/chi-square) Correlational analysis based on grouping as categorised by family pathology and trauma.	Children as unit of analysis rather than families (leads to replication of mother factor) No control for maternal Axis 1 disorders No control for childhood temperament or genetic factors Population of parents same as in above study. Potential type II error: small sample size, no evidence of a prior power analysis Type 1 error: small sample size, no adjustment for multiple statistical analysis with a Bonferroni correction.	CHILD: Increased Attention Deficit Hyperactivity Disorder (ADHD) & increased disruptive behaviour disorders in index children. Significantly more BPD in childhood Significantly lower functioning on CGAS (when family used as unit of analysis only, ADHD, ODD and lower CGAS scores still significant) TRAUMA: No statistical difference between groups. High levels of trauma found in both groups. When trauma controlled for, 20% of CGAS variance related to maternal BPD and 8% of childhood BPD related to BPD

	Participant	Recruitment Population	Independent Variable	Dependent Variables	Covariants & Statistical Analysis	Limitations	Findings
2003 Crandell et al.	Index group: 8 Mother BPD Control group: 12 Mother no history of MHP Children: 2 months infant	Community sample: Antenatal clinic and adverts	SCID-II interview used to diagnose BPD	Mother & infant behaviour during still-face interactions: face-to-face play, still-face and re-engagement.	Multiple Mann-Whitney U-test comparisons of means Reported demographics of mothers: Education, marital status, ethinic group, social class, employment and age. Reported demographics of babies: age, gestation period, birth weight. Inter-rater reliability for observations 0.68-0.93	Failed to control for current depression, history of depression. Control group no MHP. Failed to control for other covariants: infant factors (temperament, birth complication, pregnancy) or key-carer role. Potential type II error: small sample size, no evidence of a prior power analysis Type 1 error: small sample size, no adjustment for multiple statistical analysis with a Bonferroni correction.	MOTHER: Intrusive insensitive maternal behaviour in pre-play. Less satisfying interactions with infants following still face. INFANT: Infants increased looking away and dazed looks during still face and lower affect and dazed looks post still face. (potentially linked to self-regulation difficulties)

	Participant	Recruitment Population	Independent Variable	Dependent Variables	Covariants & Statistical Analysis	Limitations	Findings
2005 Apter-Danon	18 Mother BPD, included co-morbid PD (substance abuse excluded) 18 Mother with no PD, no other Axis 1, except post-natal depression Children: 3- 6 months infants. 1 year longitudinal study.	Mothers and infants came into the clinic for maternal and infant symptoms (such as sleeping disorder, excessive crying and/or maternal feeling of not coping). Control and index mother selected from population of 109 mothers. Selection criteria for controls unclear.	Diagnosis of BPD on SIDP4 (structured interview for DSM-IV PD) BID-R (Borderline Interview Diagnosis-Revised)	5 minutes free play Face-to-face still face paradigm Micro-analysis of interaction on frame-by-frame, second-by-second using Maternal Regulation Scoring Scale & Infant Regulation Scoring Scale (Tronick & Weinberg) Neurodevelopmental and emotional assesment Based on videotapes during first interview of a Parisian south suburb infant psychiatry clinic by an infant psychiatrist and a nursery nurse.	Post-natal depression in both groups. Group with and without BPD had same proportion of mothers with depression (11 PND meeting criteria in each group). Analysis not clearly documented Coded with french interaction scale by two independent coders (infant psychiatry research assistants) blind to maternal diagnosis.	Did not explicitly control for depression levels. Failed to control for infant temperament although all babies were full-term and pre-birth effects, such as, exposure to substance abuse were controlled for. Analysis unclear.	During still-face, mothers more intrusive in free play, reunion play and displayed less variety of behaviours. Qualitative differences in behaviours including poking, jabbing. BPD mothers failed to readjust to infant signs on reunion play (minimal difference between pre and post play weheras control mothers provided lowere levels of interaction allowing infant to initiate play more and adjusting to infants less interactive play. BPD Infants displayed more behaviours of autonomic nervous system during free play such as hiccupping and spitting out.

	Participant	Recruitment Population	Independent Variable	Dependent Variables	Covariants & Statistical Analysis	Limitations	Findings
2005 Abela et al.	15 parents with Hx MDD & BPD of 20 children (approx half MDD in remission) 87 parents with history of MDD of 120 children (approx half MDD in remission) Children 6-14 years of age.	Community sample: Adverts in newspapers/ local area recruiting parents with Hx depression	SCID-II interview & questionnaire	Schedule for Affective Disorders and Schizophrenia for School Age Children (K-SADS)to assess depression Children's Attributional Style Questionnaire Children's Response Style Questionnaire Children's Self-Esteem Questionaire Children's Dysfunctional Attitude Scale-Revised Children's Depressive Experiences Questionnaire Inventory of Parent and Peer Attachment Reassuranace Seeking Scale	Controlled for current levels of depression (DSM-IV- SCID I) using multiple regression analysis	Child used as unit of analysis rather than family. Did not control for differences in the gender of parent in the two groups(mother/father) Risk of Type I error- no a priori power calculation, multiple statistical tests used without Bonferroni correction	CHILD: Higher levels of current depressive symptoms Greater history of MDD (6.8 times more likely to have history of MDD) Increased negative attributional sty;e Increased ruminative response Increased dysfunctional attitudes More insecure attachment style Excessive reassurance seeking (No sign findings in relation to self-esteem or dependency) Interpersonal and cognitive youth factors remained significantly related to BPD after controlling for youth depression.

	Participant	Recruitment Population	Independent Variable	Dependent Variables	Covariants & Statistical Analysis	Limitations	Findings
2005 Hobson et al.	Index mothers: 10 Mother BPD Control mothers: 22 Mother no history MHP or depression Children: 12 months infants	Community sample: Participants were blind to the aims of the study, and were told only that the project would be investigating relationships between mothers and infants, and infant development at the end of the first year of life.	SCID-II interview	Attachment status as measured in Strange-situation Interactions with stranger in modification of Winnicott's Set Situation in which infants faced an initially unresponsive stranger and in give-take game Semi-structured play with mothers .	Correlations and t-tests-multiple statistical tests conducted despite reducing the prediction of hypothesis based on smaller sample.	Failed to control for current depression, history of depression. Control group no MHP. Failed to control for other covariants: infant factors (temperament, birth complication, pregnancy) or key-carer role. Excluded BPD with co-morbid Axis 1 or II: limited generalisability. No a prior power analysis or adjustment for multiple statistical analysis with a Bonferroni correction.	INFANT: Less availability of positive engagement and less behaviour organisation and mood state in presence of stranger. MOTHER-INFANT: In the Strange Situation,80% of infants of borderline mothers were categorized as Disorganized; MOTHER: In play, mothers with BPD were rated as more "intrusively insensitive" toward their infants.

	Participant	Recruitment Population	Independent Variable	Dependent Variables	Covariants & Statistical Analysis	Limitations	Findings
2006 Barnow *et al.*	Index mothers: 23 children of 16 mother BPD (only 10 met diagnostic criteria for BPD) Control mothers: 372 children of mothers with no BPD including 47 children of mothers with depressive disorders, 31 children from 28 mothers with Cluster C PD. 294 children of 168 mothers with no Axis 1 or PD. Children between 11-18 years years of age	Community sample: 315 families in population based study of health in Germany	SCID-II interview ≥ four criteria met for BPD (only 10 met diagnostic criteria, ≥ 5 criteria)	Child Behaviour Checklist - maternal reported emotional and behaviour problems in youth Temperament and Character Inventory EMBU - assessing youth memories of own upbringing Youth Self -Report - behaviour and emotional problems Rosenberg self-worth Adolescents 16 yrs & over also assessed on Diagnostic Expert System for Psychiatric Disorder Children under 16 yrs- Children Diagnostic Interview for Psychiatric Disorders Suicidal ideation & behaviour (non-validated questionnaire)	Explored temperament: Temperament and Character Inventory Chi-squared tests for categorical data One-tailed MANOVA for temperament & perceived parenting Multiple statistical tests	Children as unit of analysis rather than families (leads to replication of mother factor, index children are not fully independent) No a priori power calculation, multiple post-hoc analysis and multiple statistical tests- high likelihood of Type 1 error, no Bonferroni correction Current levels of depression not controlled for.	YOUTH: Higher perceived over-protection (non-significant when analysed at family level). No significant difference in relation to parental rejection and emotional warmth. Higher harm-avoidance than children of depressed mothers and children of healthy mothers. (harm avoidance significant different from Cluster C PD when analysed at family level) No sign difference in novelty seeking. Significantly greater attention problems (YSR), delinquency (CBCL) and aggressive (YSR,CBCL) in relation to healthy control children. Significantly elevated scores on anxiety/depression (YSR, CBCL), physical complaints (CBCL, YSR) and emotional problems (CBCL, YSR) in relation to children of all other groups of parents. (No longer significant at family level analysis). Significantly lower self-esteem compared to other groups. Higher rates of suicidal tendencies

	Participant	Recruitment Population	Independent Variable	Dependent Variables	Covariants & Statistical Analysis	Limitations	Findings
2007 Newman et al.	Index group: 14 mothers with BPD +/- postnatal depression Control mothers: 20 no history MHP, no postnatal depression Infants: Full-term, no developmental delay 3-36 months	Index group from from health services. Control mothers from community.	Independent clinical diagnosis of BPD Meet DSM-IV criteria for BPD Score 8 or over on DIB-R Decision re: diagnosis based on above data.	Emotional availability scale - assesses maternal responsiveness and affective attunement to child's needs and goals and the child's secure base behaviour. Assessed during 10 min free play. Self-efficacy in parenting Parenting stress index Parenting sense of competence	Demographics reported and explored: Relationship status, education, employment, SES, annual income, infant age & gender. SCL-90-R included to explore for psychopathology in control mothers Multiple statitsical tests- t-tests, chi-squared tests & correlationas	Did not control for current levels of psychopathy, including depression. Control group no history MHP. Controls recruited via community may have attracted particularly high functioning mother-infant dyads. Pattern of interaction and parenting efficacy may relate to depression rather than BPD.	Less sensitivity (inconsistent sensitive, highly insensitive or somewhat sensitive vs highly or generally sensitive control mothers. Inconsistent or non-optimal in structuring infant activities No difference in maternal hostility. Concludes that may relate to mothers with history of trauma being frightened of their infant rather than frightening to Mothers perceived themselves to be less satisfied, less competent and experience greater difficulties with parenting role, less satisfied during and disappointed with their interaction with their infant and to experience sign stress. (High scores may suggest potential for child abuse in form of neglect, rejctione or physical abuse) INFANT: Less responsive to mothers (somewhat non-optimal) Less involving behaviours (moderate optimal to somewhat optimal infants)

	Participant	Recruitment Population	Independent Variable	Dependent Variables	Covariants & Statistical Analysis	Limitations	Findings
2008 Herr et al.	Borderline pathology as continuous variable explored so no control or index groups: 189 mothers with Hx of MDD, 83 mothers with dysthymic disorder, 82 with both DD & MDD 461 no Hx depression Children: 15 year old 110 with Hx of MDD or DD	Selected from birth cohort study based on history of depression	SCID-II-PQ questionnaire borderline scale Total score between 0-8 SCID-I interview for Axis 1 DSM-IV disorders for current of Hx of DD/ MDD	Youth diagnostic interview and depressive symptoms Youth rated chronic stress assessed functioning in close relationships and social life) Self-perception close friendships & social acceptance. Teacher rated youth interpersonal functioning Bartholomew attachment prototypes Mother-rated chronic stress in mother-youth relationship & youth-rated family stress Youth-rated parenting quality (hostile/warmth)	Current depression. History of depression. Youth depression Correlations Regerssion analysis controlling for youth depression, maternal life-time depression. and current depression.	All BPD had strong history of depression may not be generalisable to BPD with less strong history of depression. Did not control for temperament or other child factors- findings may reflect genetic factors rather than environmental factors Did not control for paternal attachment or pathology. Limited support for measures of youth rated maternal hostility.	BPD associated with increased youth perceptions of maternal hostility, decreased youth self-perception in relation to close friendships and social life, greater frequency of fearful attachment cognitions and increased maternal stress in relationship.

	Participant	Recruitment Population	Independent Variable	Dependent Variables	Covariants & Statistical Analysis	Limitations	Findings
2008 Delavenne et al.	Index mothers: 17 mothers BPD Control mothers: 17 mothers no Hx MHP Infants: 3 moths old Healthy, no known medical problems	Maternity wards for control group. BPD from a random sample of mothers participating in a perinatal research project	SIDP4 & MADRS -cut-off for predominant BPD	Acoustic analyses of audio recordings of mother-infant dyads. Specifically on "phrasal" units in the flow of expressive sounds produced by mothers and infants that can be segmented according to rules similar to those used by music performers, composers and listeners. Phrases in interaction are perceived and shaped by features such as final lengthening, pausing or lowered pitch and intensity.	Multiple t-tests comparing means. No control for depression.	Did not control for depression in two groups and control group did not present with any MHP. Different recruitment routes for control group may mean control group is particularly high functioning. No power analysis, small sample and multiple statistical tests without controlling for Bonferroni correction.	"borderline personality disorder" are segmented into fewer "interactional phrases" than the interactions of control mothers with 3-month-old infants. Number and duration of maternal vocalisation did not differ between the two groups. Durations of pauses found in the interactions of the control group suggest that the vocalisations of the control mothers and their infants are generally contingent. Long enough to satisfy the infants' need. Borderline group interactions appeared incoherent and fragmented, mostly because of the interruption of interactive flow cause by very long pauses. Borderline mothers produce many more nonvocal sounds than control mothers. Non-vocal sounds, such as clicks of the tongue, whistles, throaty rasps Infants in the borderline group vocalise less than the infants in the control group.

	Participant	Recruitment Population	Independent Variable	Dependent Variables	Covariants & Statistical Analysis	Limitations	Findings
2009 Hobson *et al.*	10 Mother BPD plus 3 mother BPD from previous study 31 Mother with no mental health problems. 15 Mothers with depression. Children aged 12-18 months (18mths for Mothers with depression)	Initial population, families at or above poverty line	SCID-II interview & Axis 1 SCID interview for non-patients.	AMBIANCE: Affective communication errors Role confusion Frightened/ Disoriented behaviour Negative-intrusive behaviour (includes verbal communication attributing negative feelings or motivations to infant) Withdrawing behaviour	Compare depression group and no-depression in BPD group.	Depressed group were recruited in an earlier study- may represent a different group of parents relating to different recruitment strategy. 18mth old infant in depression group vs 12 month in BPD group may account for greater levels of frightened behaviour in parents as younger infants may be more difficult to understand and respond to. Did not control for levels of depression at time of interaction. Did not control for fact that parent not key carer in BPD group. Not generalisable as BPD group did not present with any other MHP.	Increased disrupted communication and increased frequency of disruptive behaviour. Particularly, frightened/disoriented behaviour.

	Participant	Recruitment Population	Independent Variable	Dependent Variables	Covariants & Statistical Analysis	Limitations	Findings
2009 Macfie & Swan	Index mothers: 30 children on mothers with BPD (13% co-morbid MDD) Control mothers: 30 children of mothers Children: 4-7 year old children	BPD parents recruited from clinics and community. Control mothers recruited from programmes for children and directly from community.	SCID-II interview Borderline features as assessed by PErsonality Assessment Inventory	Narrative story-stem completion about conflictual or emotionally charged theme. Level of maladaptive care-giving relationships Degree of maladaptive self-representations Poorer emotional regulation	Matched samples on presence of partner, family, income, number of adults/ children and maternal education. MDD assessed (SCID-I) MANCOVA used to control for MDD	Did not control for paternal influence or trauma as potentially relevant covariants. Did not control for child temperament or other factors impacting on child (e.g. perinatal insults)	CHILD: Observations and scoring of child's completion of narrative story-stem task indicated: more role-reversal, more fear of abandonment and more negative mother-child & father-child relationships. Significant maladaptive caregiver-child relationship representations: more role-reversal, more fear of abandonment and more negative mother-child & father-child relationships. Further analysis indicated associated with maternal identity disturbance, self-harm but not interpersonal relationships. Significant maladpative self-representations: more incongruent & shameful. Not significant negative child (negative child linked to maltreatment) - Further analysis indicates associated with maternal self-harm Significant impairments in emotional regulation: blurring the distinction between reality and fantasy, self & fantasy, diversions from issue to fantasy, less coherent and more intrusive themes in stories. Further analysis inidcates associated with maternal identity disturbance, negative relationship and self-harm

Appendix 4

Calculation of Effect Size for Power Analysis

Based on Coe (2002), the following equation was used to calculate the effect size:

$$\text{Effect Size (d)} = \frac{\text{(Mean of Experimental Group) - (Mean of Control Group)}}{\text{Pooled Standard Deviation of Experimental \& Control Group}}$$

$$\text{Pooled Standard Deviation} = \sqrt{\frac{(Na-1)\,SDa^2 + (Nb-1)\,SDb^2}{Na + Nb - 2}}$$

Based on Olejnik & Algina (2000), the following equation was used to convert the effect size (d) to effect size f:

$$\text{Effect size (f)} = \sqrt{\frac{d^2}{2k}}$$

where k= number of groups

Appendix 5

Questionnaire for Index Parent Recruited within and out with the NHS

The questions that follow ask you some questions about how you feel about yourself, your child and your family. Please try and answer all questions even if they seem daft. There are no right or wrong answers.

Thank you very much for your time

Please answer the following questions about yourself and your family:

1. Gender of Parent/Caregiver:

Male ☐ Female ☐

2. Age of Parent/Caregiver:

16-25 ☐ 25-35 ☐ 35-45 ☐ 45-55 ☐ >55 ☐

3. Are you currently involved with any mental health services in the NHS?

Yes ☐ No ☐

If you ticked **yes,** please indicate which professionals you are currently involved with:

Nurse ☐ Psychiatrist ☐ Psychologist ☐ Occupational Therapist ☐ Other ☐

4. Relationship to Child/Children:

Parent ☐ Step-parent ☐ Other ☐ _____

If you ticked **other,** please tell us how you are related to the child/children:

_____

5. Number of Children:

6. Gender of Children:

All Male ☐ All Female ☐ Male & Female ☐

_____

7. Ages of Children:

8. Do any of your children have special educational needs or physical or mental health problems?
Yes ☐ No ☐

If yes, please could you tell us about the kind of difficulties they experience in the space below:

_____

_____

_____

Thank you very much for helping with this study. Please check to see if there are more questions overleaf.

Below are a number of situations that involve children. In each case, please imagine that the child in the situation is your own. After reading each situation please record:

How much do you think the child would have done what they did to ***annoy*** you, using this 9-point scale:

1 2 3 4 5 6 7 8 9

If your child did not mean to annoy you at all, you would write 1

If you think the only reason your child did this was to annoy you, you would write 9.

How much you would **punish** the child, using this 9-point scale:

1 2 3 4 5 6 7 8 9

If you would not punish your child at all, you would write 1.

If you would punish your child a great deal, you would write 9

Please remember to answer these questions after every item.
" How much did your child do that to annoy you?"
"How much would you punish your child for doing that?"

		Annoy 1-9	Punish 1-9
1	You walk into a room and find your 3 year old child has wet his/her pants		
2	Your six year old child and his/her friend are playing at home with very difficult puzzles that are more appropriate for an older child. The friend begins to tease and call your child names "you are a stupid dummy". Your child than runs to you, acting frustrated, and not knowing what she/he is doing, she/he throw the puzzle pieces and breaks an expensive lamp.		
3	For supper you cook your 7 year old child a meal that she/he likes and has always happily eaten. Although your child had just been complaining about being hungry, tonight she/he pushes the food around the plate and refuses to eat.		
4	Soon after you place your 2 year-old in the next room you hear him/her crying.		
5	This morning you asked your preschool child to tie his/her shoelaces for the first time her/himself. Later you check to see if she/he did what you asked and you see that she/he had not.		
6	Your 3 year-old was at home and told you that she/he was going to the toilet. As she/he went into the toilet, she/he said "Look at me, how good I am". You join her/him in the toilet as she/he is laughing and looking right toward you while she/he is urinating all over the floor and his/her clothing.		
7	You give your baby a bottle and come back a few minutes later and see him/her drop the bottle which spills on the rug.		
8	Your 7 year-old has the flu and is sick in bed with a fever and stomach ache. When you take him his/her supper, she/he refuses to eat.		
9	Shortly after you punished your 5 year-old, you tell her/him to play quietly with her/his toys. Very soon after this instruction she/he stands up, looks at you in the eye, throws a toy at an expensive lamp, breaks it ,and then laughs.		
10	Your preschool child is in the next room and you do not know what is going on in there. You ask her/him for a favor but there is no reply.		

Thank you very much for helping with this study. Please check to see if there are more questions overleaf.

		Annoy 1-9	Punish 1-9
11	As your 3 year-old child is walking home from the shops with you she/he remarks that she/he has to go to the toilet- she/he no longer can wait. Unfortunately, a toilet is still a long walk away. Upon arriving home, the child embarrassedly shows you the dirty, soiled underwear and pants.		
12	After you bathed, clothed, fed and played with your 2 year-old child, you gently placed him/her in a quiet room. For no seemingly good reason, you hear the child crying.		
13	Your 4 year-old child comes in for lunch after playing outside. You notice that she/he doesn't eat anything.		
14	Your baby is not good at holding on to objects yet. You give him/her a bottle and it slips out of his/her hands and spills on the rug.		
15	You ask your preschool child to get you your mobile phone, a favor that she/he can sometimes do. After the request your child stands there, like she/he didn't hear you.		
16	You leave your 6 year-old child and his/her friend in the next room to play for a while. After a few seconds you decide to check and see how things are going with the kids. At that moment, you see your child throw and object and break an expensive lamp.		
17	Your 2 year-old is with you while you go shopping. Both of you are tired when you return home. You put him/her in the next room to rest and then you start your own jobs. Soon after that you hear your child crying and when you go to the next room you see him/her alone crying.		
18	Your baby has been very difficult all day. You give her/him a bottle to make him/her feel better. She/he throws it on the rug and it breaks.		

Thank you very much for helping with this study. Please check to see if there are more questions overleaf.

In this questionnaire, we want to know how important you believe different factors might be as potential causes of successful and unsuccessful interaction with children. We are interested in discovering the way people think about children--there are no right or wrong answers.

Example: If you were teaching a child an outdoor game and he or she caught on very quickly, how important do you believe these possible causes would be?

	1 Not at all important → 7 Very important						
a. how good he or she is in sports in general	1	2	3	4	5	6	7
b. how good a teacher you are	1	2	3	4	5	6	7
c. how easy the game is	1	2	3	4	5	6	7

Place a circle around a number. Pick one of the bigger numbers if you think this factor is important, and a smaller number if you think it is not important.

Answer the following questions by making ratings in the same way as shown above:

1. Suppose you took care of a neighbour's child one afternoon and the two of you had a really good time together. How important do you believe the following factors would be as reasons for such an experience?

	1 Not at all important → 7 Very important						
a. whether or not this was a "good day" for the child, e.g., whether there was a TV show s/he particularly wanted to see (or some other special thing to do)	1	2	3	4	5	6	7
d. how lucky you were in just having everything work out well	1	2	3	4	5	6	7
e. how much the child enjoys being with adults	1	2	3	4	5	6	7
f. how pleasant a temperament the child had	1	2	3	4	5	6	7
g. how well the neighbour had set things up for you in advance.	1	2	3	4	5	6	7
h. whether the child was rested	1	2	3	4	5	6	7

Place a circle around a number. Pick one of the bigger numbers if you think this factor is important, and a smaller number if you think it is not important.

Thank you very much for helping with this study. Please check to see if there are more questions overleaf.

The next question asks about BAD experiences with children. Reasons for good interactions are not necessarily the same as those for unsuccessful ones. So please think about this situation without regard for the way you answered the first question.

2. Suppose you took care of a neighbour's child one afternoon and the two of you did not get along well. How important do you believe the following factors would be as possible reasons for such an experience.

	1 Not at all important						7 Very important
b. how unpleasant a disposition a disposition the child had	1	2	3	4	5	6	7
c. whether the child was tired or not feeling well	1	2	3	4	5	6	7
d. whether or not you really enjoy children that much	1	2	3	4	5	6	7
f. whether or not this was a bad day for the child, e.g., whether there was nothing good on TV, whether it was raining and he or she couldn't go outside	1	2	3	4	5	6	7
i. whether you used the wrong approach for this child	1	2	3	4	5	6	7
j. the extent to which the child was stubborn and resisted your efforts	1	2	3	4	5	6	7
k. how you get along with children in general	1	2	3	4	5	6	7
m. what kind of mood you were in that day	1	2	3	4	5	6	7
q. how hungry the child was	1	2	3	4	5	6	7
t. how little effort the child made to take an interest in what you said or did	1	2	3	4	5	6	7
u. the extent to which you were not feeling well that day	1	2	3	4	5	6	7
z. whether or not this was a bad day for you in general	1	2	3	4	5	6	7

Place a circle around a number. Pick one of the bigger numbers if you think this factor is important, and a smaller number if you think it is not important.

Thank you very much for helping with this study. Please check to see if there are more questions overleaf.

Please complete this questionnaire for a child between 3 and 16 years of age. If you have more than one child between 3 and 16 years of age, please complete this questionnaire in relation to the child whose behaviour you find most concerning or most difficult. This scale asks you some questions about children's behaviour and feelings. For each item, please tick whether the statement is Not True, Somewhat True or Certainly True. Please give your answers based of the child's behaviour in the last 6 months.

Gender of Child: Male ☐ Female ☐ Age of Child: ☐ years

	Not True	Somewhat True	Certainly True
Considerate of other people's feelings			
Restless, overactive, cannot stay still for long			
Often complains of headaches, stomach-aches or sickness			
Share's readily with other children (treats, toys, pencils etc.)			
Often has temper tantrums or hot tempers			
Rather solitary, tends to play alone			
Generally obedient, usually does what adults request			
Many worries, often seems worried			
Helpful if someone is hurt, upset or feeling ill			
Constantly fidgeting or squirming			
Has at least one good friend			
Often fights with other children or bullies them			
Often unhappy, down-hearted or tearful			
Generally liked by other children			
Easily distracted, concentration wanders			
Nervous or clingy in new situations, easily loses confidence			
Kind to younger children			
Often lies or cheats			
Picked on or bullied by other children			
Often volunteers to help others(parents,teachers,children)			
Thinks things out before acting			
Steals from home, school or elsewhere			
Gets on better with adults than with other children			
Many fears, easily scared			
Sees tasks through to the end, good attention span			
Often argumentative with adults			
Can be spiteful to others			
Can stop and think things out before acting			

Thank you very much for helping with this study. Please check to see if there are more questions overleaf.

This questionnaire consists of 21 groups of statements. Please read each group of statements carefully, and then pick out the **one statement** in each group that best describes the way you have been feeling during the **past two weeks, including today.** Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, circle the highest number for that group. Be sure that you do not choose more than one statement for any group, including Item 16 (Changes in Sleeping Pattern) or Item 18 (Changes in Appetite).

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1. Sadness

0 I do not feel sad.
1 I feel sad much of the time.
2 I am sad all the time.
3 I am so sad or unhappy that I can't stand it.

2. Pessimism

0 I am not discouraged about my future.
1 I feel more discouraged about my future that I used to be.
2 I do not expect things to work out for me.
3 I feel my future is hopeless and will only get worse.

3. Past Failure

0 I do not feel like a failure.
1 I have failed more than I should have.
2 As I look back, I see a lot of failures.
3 I feel I am a total failure as a person

4. Loss of Pleasure

0 I get as much pleasure as I ever did from the things I enjoy.
1 I don't enjoy things as much as I used to.
2 I get very little pleasure from the things I used to enjoy.
3 I can't get any pleasure from the things I used to enjoy.

5. Guilty Feelings

0 I don't feel particularly guilty.
1 I feel guilty over many things I have done or should have done.
2 I feel quite guilty most of the time.
3 I feel guilty all of the time.

6. Punishment Feelings

0 I don't feel I am being punished.
1 I feel I may be punished.
2 I expect to be punished.
3 I feel I am being punished.

7. Self-Dislike

0 I feel the same about myself as ever.
1 I have lost my confidence in myself.
2 I am disappointed in myself.
3 I dislike myself.

8. Self-Criticism

0 I don't criticize or blame myself more than usual.
1 I am more critical of myself than I used to be.
2 I criticize myself for all of my faults.
3 I blame myself for everything bad that happens.

9. Suicidal Thoughts or Wishes

0 I don't have any thoughts of killing myself.
1 I have thoughts of killing myself, but I would not carry them out.
2 I would like to kill myself.
3 I would kill myself if I had the chance.

10. Crying

0 I don't cry anymore than I used to.
1 I cry more than I used to.
2 I cry over every little thing.
3 I feel like crying, but I can't.

Thank you very much for helping with this study. Please check to see if there are more questions overleaf.

11. Agitation

0 I am no more restless or wound up than usual.
1 I feel more restless or wound up than usual.
2 I am so restless or agitated that it's hard to stay still.
3 I am so restless or agitated that I have to keep moving or doing something.

12. Loss of Interest

0 I have not lost interest in other people or activities.
1 I am less interested in other people or things than before.
2 I have lost most of my interest in other people or things.
3 It's hard to get interested in anything

13. Indecisiveness

0 I make decisions about as well as ever.
1 I find it more difficult to make decisions than usual.
2 I have much greater difficulty in making decisions than I used to.
3 I have trouble making any decisions.

14. Worthlessness

0 I do not feel I am worthless
1 I don't consider myself as worthwhile and useful as I used to.
2 I feel more worthless as compared to other people.
3 I feel utterly worthless.

15. Loss of Energy

0 I have as much energy as ever.
1 I have less energy than I used to have.
2 I don't have enough energy to do very much.
3 I don't have enough energy to do anything.

16. Changes in Sleeping Pattern

0 I have not experienced any change in my sleeping pattern.
1a I sleep somewhat more than usual.
1b I sleep somewhat less than usual.
2a I sleep a lot more than usual.
2b I sleep a lot less than usual.
3a I sleep most of the day.
3b I wake up 1-2 hours early and can't get back to sleep

17. Irritability

0 I am no more irritable than usual.
1 I am more irritable than usual.
2 I am much more irritable than usual.
3 I am irritable all the time.

18. Changes in Appetite

0 I have not experienced any change in my appetite.
1a My appetite is somewhat less than than usual.
1b My appetite is somewhat greater than usual.
2a My appetite is much less than before
2b My appetite is much greater than usual
3a I have no appetite at all
3b I crave food all the time.

19. Concentration Difficulty

0 I can concentrate as well as ever.
1 I can't concentrate as well as usual.
2 It's hard to keep my mind on anything for very long
3 I find I can't concentrate on anything.

20. Tiredness or Fatigue

0 I am no more tired or fatigued than usual.
1 I get more tired or fatigued more easily than usual.
2 I am too tired or fatigued to do a lot of the things I used to do.
3 I am too tired or fatigued to do most of the things used to do.

21. Loss of Interest in Sex

0 I have not noticed any recent changes in my interest in sex.
1 I am less interested in sex than I used to be.
2 I am much less interested in sex now.
3 I have lost interest in sex completely.

Thank you very much for helping with this study. Please check to see if there are more questions overleaf.

Thank you very much

for participating in this study.

We really appreciate your help in

contributing to the

findings of this research.

Thank you very much for helping with this study. Please check to see if there are more questions overleaf.

Appendix 6

Questionnaire for Control Parents

The questions that follow ask you some questions about how you feel about yourself, your child and your family. Please try and answer all questions even if they seem daft. There are no right or wrong answers.

Thank you for your time

Please answer the following questions about yourself and your family:

1. Gender of Parent/Caregiver:

Male ☐ Female ☐

2. Age of Parent/Caregiver:

16-25 ☐ 25-35 ☐ 35-45 ☐ 45-55 ☐ >55 ☐

3. Relationship to Child/Children:

Parent ☐ Step-parent ☐ Other ☐

If you ticked **other**, please can you tell us how you are related to the child/children: _____

4. Number of Children: _____

5. Gender of Children:

All Male ☐ All Female ☐ Male & Female ☐

6. Ages of Children: _____

7. Do any of your children have special educational needs or physical or mental health problems?

Yes ☐ No ☐

If yes, please could you tell us about the kind of difficulties they experience in the space below:

Thank you very much for helping with this study. Please check to see if there are more questions overleaf.

These questions are about the kind of person you generally are - that is, how you have usually felt or behaved over the past several years. Tick "YES" if the question completely or mostly applies to you, or tick "NO" if it does not apply to you. If you do not understand the question or are not sure of the answer, leave it blank.

	Yes	No
1. Have you avoided jobs or tasks that involved having to deal with a lot of people?		
2. Do you avoid getting involved with people unless you are certain they will like you?		
3. Do you find it hard to be 'open' even with people you are close to?		
4. Do you often worry about being criticised or rejected in social situations?		
5. Are you usually quiet when you meet new people?		
6. Do you believe that you're not as good, as smart, or as attractive as most other people?		
7. Are you afraid to try new things?		
8. Do you need a lot of advise or reassurance from others before you can make everyday decisions-like what to wear or what to order in a restaurant?		
9. Do you depend on other people to handle important areas in your life such as finances, child care or living arrangements?		
10. Do you find it hard to disagree with people even when you think they are wrong?		
11. Do you find it hard to start or work on tasks when there is no one to help you?		
12. Have you often volunteered to do things that are unpleasant?		
13. Do you usually feel uncomfortable when you are by yourself?		
14. When a close relationship ends, do you feel you immediately have to find someone else to take care of you?		
15. Do you worry a lot about being left alone to take care of yourself?		
16. Are you the kind of person who focuses on the details, order and organisation, or likes to make lists and schedules?		
17. Do you have trouble finishing jobs because you spend so much time trying to get things exactly right?		
18. Do you or other people feel that you have been so devoted to work (or school) that you have had no time left for anyone else or for just having fun?		
19. Do you have very high standards about what is right and what is wrong?		
20. Do you have trouble throwing things out because they might come in handy some day?		
21. Is it hard for you to let other people help you unless they agree to do things exactly the way you want?		
22. Is it hard for you to spend money on yourself and other people even when you have enough?		
23. Are you often so sure you are right that it doesn't matter what other people say?		
24. Have other people told you that you are stubborn and rigid?		
25. When someone asks you to do something that you don't want to do, do you say "yes" but then work slowly or do a bad job?		

Thank you very much for helping with this study. Please check to see if there are more questions overleaf.

	Yes	No
26. If you don't want to do something, do you often just forget to do it?		
27. Do you often feel that other people don't understand you, or don't appreciate how much you do?		
28. Are you often grumpy and likely to get into arguments?		
29. Have you found that most of your bosses, teachers, supervisors, doctors, and others who are supposed to know what they are doing really don't?		
30. Do you often think that it's not fair that other people have more than you do?		
31. Do you often complain that more than your share of bad things have happened to you?		
32. Do you often angrily refuse to do what others want and then later feel bad and apologise?		
33. Do you usually feel unhappy or that life is no fun?		
34. Do you believe that you are basically an inadequate persona and often don't feel good about yourself?		
35. Do you often put yourself down?		
36. Do you keep thinking about bad things that have happened in the past and worry about bad things that might happen in the future?		
37. Do you often judge others harshly and easily find fault with them?		
38. Do you think that most people are basically no good?		
39. Do you almost always expect things to turn out badly?		
40. Do you often feel guilty about things you have or haven;t done?		
41. Do you often have to keep an eye out to stop people from using you or hurting you?		
42. Do you spend a lot of time wondering if you can trust your friends or the people you work with?		
43. Do you find that it is best not to let other people know much about you because they will use it against you?		
44. Do you often detect hidden threats or insults in things people say or do?		
45. Are you the kind of person who holds grudges or takes a long time to forgive people who have insulted or slighted you?		
46. Are there many people you can't forgive because they did or said something to you a long time ago?		
47. Do you often get angry or lash out when someone criticises or insults you in some way?		
48. Have you often suspected that your spouse or partner has been unfaithful?		
49. When you are out in public and see people talking, do you often feel that they are talking about you?		
50. Do you often get the feeling that things that have no special meaning to most people are really meant to give you a message?		
51. When you around people, do you often get the feeling that you are being watched or stared at?		
52. Have you ever felt that you could make things happen just by making a wish or thinking about them?		

Thank you very much for helping with this study. Please check to see if there are more questions overleaf.

	Yes	No
53. Have you had personal experiences with the supernatural?		
54. Do you believe that you have a 'sixth sense' that allows you to know and predict things that others can't?		
55. Does it often seem that objects or shadows are really people or that noises are actually people's voices?		
56. Have you had the sense that some person or force is around you, even though you cannot see anyone?		
57. Do you often see auras or energy fields around people?		
58. Are there very few people that you're really close to outside of your immediate family?		
59. Do you often feel nervous when you are with other people?		
60. Are you the kind of person who doesn't think it is important to have any close relationships?		
61. Would you almost always rather do things alone than with other people?		
62. Could you be content without ever being sexually involved with anyone?		
63. Are there really very few things in life that give you pleasure?		
64. Are you the kind of person that doesn't care what people think of you?		
65. Are you the sort of person who finds that nothing makes you very happy or very sad?		
66. Do you like to be the centre of attention?		
67. Do you flirt a lot?		
68. Do you often find yourself "coming on" to people?		
69. Do you try to draw attention to yourself by the way you dress or look?		
70. Do you often make a point of being dramatic and colourful?		
71. Do you often change your mind about things depending on the people you're with or what you have just read or seen on TV?		
72. Do you have lots of friends that you are very close to?		
73. Do people often fail to appreciate your very special traits or accomplishments?		
74. Have people told you that you have too high an opinion of yourself?		
75. Do you think a lot about the power, fame or recognition that will be yours someday?		
76. Do you think a lot about the perfect romance that will be yours someday?		
77. When you have a problem, do you almost always insist on seeing the top person?		
78. Do you feel it is important to spend time with people who are special or influential?		
79. Is it very important to you that people pay attention to you or admire you in some way?		
80. Do you think that it's not necessary to follow certain rules or society conventions when they get in your way?		
81. Do you feel that you are the kind of person who deserves special treatment?		

Thank you very much for helping with this study. Please check to see if there are more questions overleaf.

	Yes	No
82. Do you often find it necessary to step on a few toes to get what you want?		
83. Do you often have to put your needs above other people's?		
84. Do you often expect other people to do what you ask without question because of who you are?		
85. Are you the sort of person who is not really interested in other people's problems or feelings?		
86. Have people complained to you that you don't listen to them or care about their feelings?		
87. Are you often envious of others?		
88. Do you feel that others are often envious of you?		
89. Do you find that there are very few people that are worth your time and attention?		
90. Have you often become frantic when you thought that someone you really cared about was going to leave you?		
91. Do your relationships with people you really care about have lots of extreme ups and downs?		
92. Have you all of a sudden changed your sense of who you are and where you are headed?		
93. Does your sense of who you are often change dramatically?		
94. Are you different with different people or in different situations so that you sometimes don't know who you really are?		
95. Have there been lots of sudden changes in your goals, careers plans, religious beliefs, and so on?		
96. Have you often done things impulsively?		
97. Have you tried to hurt or kill yourself, or threatened to do so?		
98. Have you ever cut, burned, or scratched yourself on purpose?		
99. Do you have a lot of sudden mood changes?		
100. Do you often feel empty inside?		
101. Do you often have temper outbursts or get so angry that you lose control?		
102. Do you hit people or throw things when you get angry?		
103. Do even little things get you very angry?		
104. When you are under a lot of stress, do you get suspicious of other people or feel especially 'spaced out'?		
105. Before you were 15, would you bully or threaten other kids?		
106. Before you were 15, would you start fights?		
107. Before you were 15, did you hurt or threaten someone with a weapon, like a bat, brick, broken bottle, a knife or a gun?		
108. Before you were 15, did you deliberately torture someone or cause someone physical pain or suffering?		
109. Before you were 15, did you torture or hurt animals on purpose?		

Thank you very much for helping with this study. Please check to see if there are more questions overleaf.

	Yes	No
110. Before you were 15, did you rob, mug, or forcibly take something from someone by threatening him or her?		
111. Before you were 15, did you force someone to have sex with you, get undressed, or touch you sexually?		
112. Before you were 15, did you start fires?		
113. Before you were 15, did you deliberately destroy things that weren't yours?		
114. Before you were 15, did you break into houses, other buildings, or cars?		
115. Before you were 15, did you lie a lot or "con" other people?		
116. Before you were 15, did you sometimes steal or shoplift things or forge someone's signature?		
117. Before you were 15, did you run away from home and stay away overnight?		
118. Before you were 13, did you often stay out very late, long after the time you were supposed to be home?		
119. Before you were 13, did you often skip school?		

Thank you very much for helping with this study. Please check to see if there are more questions overleaf.

Below are a number of situations that involve children. In each case, please imagine that the child in the situation is your own. After reading each situation please record:

How much do you think the child would have done what they did to ***annoy*** you, using this 9-point scale:

1 2 3 4 5 6 7 8 9

If your child did not mean to annoy you at all, you would write 1

If you think the only reason your child did this was to annoy you, you would write 9.

How much you would **punish** the child, using this 9-point scale:

1 2 3 4 5 6 7 8 9

If you would not punish your child at all, you would write 1.

If you would punish your child a great deal, you would write 9

Please remember to answer these questions after every item.
" How much did your child do that to annoy you?"
"How much would you punish your child for doing that?"

		Annoy 1-9	**Punish 1-9**
1	You walk into a room and find your 3 year old child has wet his/her pants		
2	Your six year old child and his/her friend are playing at home with very difficult puzzles that are more appropriate for an older child. The friend begins to tease and call your child names "you are a stupid dummy". Your child than runs to you, acting frustrated, and not knowing what she/he is doing, she/he throw the puzzle pieces and breaks an expensive lamp.		
3	For supper you cook your 7 year old child a meal that she/he likes and has always happily eaten. Although your child had just been complaining about being hungry, tonight she/he pushes the food around the plate and refuses to eat.		
4	Soon after you place your 2 year-old in the next room you hear him/her crying.		
5	This morning you asked your preschool child to tie his/her shoelaces for the first time her/himself. Later you check to see if she/he did what you asked and you see that she/he had not.		
6	Your 3 year-old was at home and told you that she/he was going to the toilet. As she/he went into the toilet, she/he said "Look at me, how good I am". You join her/him in the toilet as she/he is laughing and looking right toward you while she/he is urinating all over the floor and his/her clothing.		
7	You give your baby a bottle and come back a few minutes later and see him/her drop the bottle which spills on the rug.		
8	Your 7 year-old has the flu and is sick in bed with a fever and stomach ache. When you take him his/her supper, she/he refuses to eat.		
9	Shortly after you punished your 5 year-old, you tell her/him to play quietly with her/his toys. Very soon after this instruction she/he stands up, looks at you in the eye, throws a toy at an expensive lamp, breaks it ,and then laughs.		
10	Your preschool child is in the next room and you do not know what is going on in there. You ask her/him for a favor but there is no reply.		

Thank you very much for helping with this study. Please check to see if there are more questions overleaf.

		Annoy 1-9	Punish 1-9
11	As your 3 year-old child is walking home from the shops with you she/he remarks that she/he has to go to the toilet- she/he no longer can wait. Unfortunately, a toilet is still a long walk away. Upon arriving home, the child embarrassedly shows you the dirty, soiled underwear and pants.		
12	After you bathed, clothed, fed and played with your 2 year-old child, you gently placed him/her in a quiet room. For no seemingly good reason, you hear the child crying.		
13	Your 4 year-old child comes in for lunch after playing outside. You notice that she/he doesn't eat anything.		
14	Your baby is not good at holding on to objects yet. You give him/her a bottle and it slips out of his/her hands and spills on the rug.		
15	You ask your preschool child to get you your mobile phone, a favor that she/he can sometimes do. After the request your child stands there, like she/he didn't hear you.		
16	You leave your 6 year-old child and his/her friend in the next room to play for a while. After a few seconds you decide to check and see how things are going with the kids. At that moment, you see your child throw and object and break an expensive lamp.		
17	Your 2 year-old is with you while you go shopping. Both of you are tired when you return home. You put him/her in the next room to rest and then you start your own jobs. Soon after that you hear your child crying and when you go to the next room you see him/her alone crying.		
18	Your baby has been very difficult all day. You give her/him a bottle to make him/her feel better. She/he throws it on the rug and it breaks.		

Thank you very much for helping with this study. Please check to see if there are more questions overleaf.

In this questionnaire, we want to know how important you believe different factors might be as potential causes of successful and unsuccessful interaction with children. We are interested in discovering the way people think about children--there are no right or wrong answers.

Example: If you were teaching a child an outdoor game and he or she caught on very quickly, how important do you believe these possible causes would be?

	1 Not at all important → 7 Very important						
a. how good he or she is in sports in general	1	2	3	4	5	6	7
b. how good a teacher you are	1	2	3	4	5	6	7
c. how easy the game is	1	2	3	4	5	6	7

Place a circle around a number. Pick one of the bigger numbers if you think this factor is important, and a smaller number if you think it is not important.

Answer the following questions by making ratings in the same way as shown above:

1. Suppose you took care of a neighbour's child one afternoon and the two of you had a really good time together. How important do you believe the following factors would be as reasons for such an experience?

	1 Not at all important → 7 Very important						
a. whether or not this was a "good day" for the child, e.g., whether there was a TV show s/he particularly wanted to see (or some other special thing to do)	1	2	3	4	5	6	7
d. how lucky you were in just having everything work out well	1	2	3	4	5	6	7
e. how much the child enjoys being with adults	1	2	3	4	5	6	7
f. how pleasant a temperament the child had	1	2	3	4	5	6	7
g. how well the neighbour had set things up for you in advance.	1	2	3	4	5	6	7
h. whether the child was rested	1	2	3	4	5	6	7

Place a circle around a number. Pick one of the bigger numbers if you think this factor is important, and a smaller number if you think it is not important.

Thank you very much for helping with this study. Please check to see if there are more questions overleaf.

The next question asks about BAD experiences with children. Reasons for good interactions are not necessarily the same as those for unsuccessful ones. So please think about this situation without regard for the way you answered the first question.

2. Suppose you took care of a neighbour's child one afternoon and the two of you did not get along well. How important do you believe the following factors would be as possible reasons for such an experience.

	1 Not at all important						7 Very important
b. how unpleasant a disposition a disposition the child had	1	2	3	4	5	6	7
c. whether the child was tired or not feeling well	1	2	3	4	5	6	7
d. whether or not you really enjoy children that much	1	2	3	4	5	6	7
f. whether or not this was a bad day for the child, e.g., whether there was nothing good on TV, whether it was raining and he or she couldn't go outside	1	2	3	4	5	6	7
i. whether you used the wrong approach for this child	1	2	3	4	5	6	7
j. the extent to which the child was stubborn and resisted your efforts	1	2	3	4	5	6	7
k. how you get along with children in general	1	2	3	4	5	6	7
m. what kind of mood you were in that day	1	2	3	4	5	6	7
q. how hungry the child was	1	2	3	4	5	6	7
t. how little effort the child made to take an interest in what you said or did	1	2	3	4	5	6	7
u. the extent to which you were not feeling well that day	1	2	3	4	5	6	7
z. whether or not this was a bad day for you in general	1	2	3	4	5	6	7

Place a circle around a number. Pick one of the bigger numbers if you think this factor is important, and a smaller number if you think it is not important.

Thank you very much for helping with this study. Please check to see if there are more questions overleaf.

Please complete this questionnaire for a child between 3 and 16 years of age. If you have more than one child between 3 and 16 years of age, please complete this questionnaire in relation to the child whose behaviour you find most concerning or most difficult. This scale asks you some questions about children's behaviour and feelings. For each item, please tick whether the statement is Not True, Somewhat True or Certainly True. Please give your answers based of the child's behaviour in the last 6 months.

Gender of Child : Male ☐ Female ☐ Age of Child: ☐ years

	Not True	Somewhat True	Certainly True
Considerate of other people's feelings			
Restless, overactive, cannot stay still for long			
Often complains of headaches, stomach-aches or sickness			
Share's readily with other children (treats, toys, pencils etc.)			
Often has temper tantrums or hot tempers			
Rather solitary, tends to play alone			
Generally obedient, usually does what adults request			
Many worries, often seems worried			
Helpful if someone is hurt, upset or feeling ill			
Constantly fidgeting or squirming			
Has at least one good friend			
Often fights with other children or bullies them			
Often unhappy, down-hearted or tearful			
Generally liked by other children			
Easily distracted, concentration wanders			
Nervous or clingy in new situations, easily loses confidence			
Kind to younger children			
Often lies or cheats			
Picked on or bullied by other children			
Often volunteers to help others (parents, teachers,children)			
Thinks things out before acting			
Steals from home, school or elsewhere			
Gets on better with adults than with other children			
Many fears, easily scared			
Sees tasks through to the end, good attention span			
Often argumentative with adults			
Can be spiteful to others			
Can stop and think things out before acting			

Thank you very much for helping with this study. Please check to see if there are more questions overleaf.

This questionnaire consists of 21 groups of statements. Please read each group of statements carefully, and then pick out the **one statement** in each group that best describes the way you have been feeling during the **past two weeks, including today.** Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, circle the highest number for that group. Be sure that you do not choose more than one statement for any group, including Item 16 (Changes in Sleeping Pattern) or Item 18 (Changes in Appetite).

---

1. Sadness

0 I do not feel sad.
1 I feel sad much of the time.
2 I am sad all the time.
3 I am so sad or unhappy that I can't stand it.

2. Pessimism

0 I am not discouraged about my future.
1 I feel more discouraged about my future that I used to be.
2 I do not expect things to work out for me.
3 I feel my future is hopeless and will only get worse.

3. Past Failure

0 I do not feel like a failure.
1 I have failed more than I should have.
2 As I look back, I see a lot of failures.
3 I feel I am a total failure as a person

4. Loss of Pleasure

0 I get as much pleasure as I ever did from the things I enjoy.
1 I don't enjoy things as much as I used to.
2 I get very little pleasure from the things I used to enjoy.
3 I can't get any pleasure from the things I used to enjoy.

5. Guilty Feelings

0 I don't feel particularly guilty.
1 I feel guilty over many things I have done or should have done.
2 I feel quite guilty most of the time.
3 I feel guilty all of the time.

6. Punishment Feelings

0 I don't feel I am being punished.
1 I feel I may be punished.
2 I expect to be punished.
3 I feel I am being punished.

7. Self-Dislike

0 I feel the same about myself as ever.
1 I have lost my confidence in myself.
2 I am disappointed in myself.
3 I dislike myself.

8. Self-Criticism

0 I don't criticize or blame myself more than usual.
1 I am more critical of myself than I used to be.
2 I criticize myself for all of my faults.
3 I blame myself for everything bad that happens.

9. Suicidal Thoughts or Wishes

0 I don't have any thoughts of killing myself.
1 I have thoughts of killing myself, but I would not carry them out.
2 I would like to kill myself.
3 I would kill myself if I had the chance.

10. Crying

0 I don't cry anymore than I used to.
1 I cry more than I used to.
2 I cry over every little thing.
3 I feel like crying, but I can't.

Thank you very much for helping with this study. Please check to see if there are more questions overleaf.

11. Agitation

0 I am no more restless or wound up than usual.
1 I feel more restless or wound up than usual.
2 I am so restless or agitated that it's hard to stay still.
3 I am so restless or agitated that I have to keep moving or doing something.

12. Loss of Interest

0 I have not lost interest in other people or activities.
1 I am less interested in other people or things than before.
2 I have lost most of my interest in other people or things.
3 It's hard to get interested in anything

13. Indecisiveness

0 I make decisions about as well as ever.
1 I find it more difficult to make decisions than usual.
2 I have much greater difficulty in making decisions than I used to.
3 I have trouble making any decisions.

14. Worthlessness

0 I do not feel I am worthless
1 I don't consider myself as worthwhile and useful as I used to.
2 I feel more worthless as compared to other people.
3 I feel utterly worthless.

15. Loss of Energy

0 I have as much energy as ever.
1 I have less energy than I used to have.
2 I don't have enough energy to do very much.
3 I don't have enough energy to do anything.

16. Changes in Sleeping Pattern

0 I have not experienced any change in my sleeping pattern.
1a I sleep somewhat more than usual.
1b I sleep somewhat less than usual.
2a I sleep a lot more than usual.
2b I sleep a lot less than usual.
3a I sleep most of the day.
3b I wake up 1-2 hours early and can't get back to sleep

17. Irritability

0 I am no more irritable than usual.
1 I am more irritable than usual.
2 I am much more irritable than usual.
3 I am irritable all the time.

18. Changes in Appetite

0 I have not experienced any change in my appetite.
1a My appetite is somewhat less than than usual.
1b My appetite is somewhat greater than usual.
2a My appetite is much less than before
2b My appetite is much greater than usual
3a I have no appetite at all
3b I crave food all the time.

19. Concentration Difficulty

0 I can concentrate as well as ever.
1 I can't concentrate as well as usual.
2 It's hard to keep my mind on anything for very long
3 I find I can't concentrate on anything.

20. Tiredness or Fatigue

0 I am no more tired or fatigued than usual.
1 I get more tired or fatigued more easily than usual.
2 I am too tired or fatigued to do a lot of the things I used to do.
3 I am too tired or fatigued to do most of the things used to do.

21. Loss of Interest in Sex

0 I have not noticed any recent changes in my interest in sex.
1 I am less interested in sex than I used to be.
2 I am much less interested in sex now.
3 I have lost interest in sex completely.

Thank you very much for helping with this study. Please check to see if there are more questions overleaf.

This form has 34 statements about how you have been OVER THE LAST WEEK. Please read each statement and think how often you felt that way last week. Then tick the box which is closest to this.

	Not at all	Only occasionally	Sometimes	Often	Most of the time
1. I have felt terribly alone and isolated					
2. I have felt tense, anxious or nervous					
3. I have felt I have someone to turn to for support when needed					
4 I have felt O.K. about myself					
5. I have felt totally lacking in energy and enthusiasm					
6. I have been physically violent to others					
7. I have felt able to cope when things go wrong					
8. I have been troubled by aches, pains or other physical problems					
9. I have thought of hurting myself					
10. Talking to people has felt too much for me					
11. Tension and anxiety have prevented me doing important things					
12. I have been happy with the things I have done.					
13. I have been disturbed by unwanted thoughts and feelings					
14. I have felt like crying					
15. I have felt panic or terror					
16. I made plans to end my life					
17. I have felt overwhelmed by my problems					
18. I have had difficulty getting to sleep or staying asleep					
19. I have felt warmth or affection for someone					
20. My problems have been impossible to put to one side					
21. I have been able to do most things I needed to					
22. I have threatened or intimidated another person					
23. I have felt despairing or hopeless					

Thank you very much for helping with this study. Please check to see if there are more questions overleaf.

	Not at all	Only occasionally	Sometimes	Often	Most of the time
24. I have thought it would be better if I were dead					
25. I have felt criticised by other people					
26. I have thought I have no friends					
27. I have felt unhappy					
28. Unwanted images or memories have been distressing me					
29. I have been irritable when with other people					
30. I have thought I am to blame for my problems and difficulties					
31. I have felt optimistic about my future					
32. I have achieved the things I wanted to					
33. I have felt humiliated or shamed by other people					
34. I have hurt myself physically or taken dangerous risks with my health					

Thank you very much

for participating in this study.

We really appreciate your help in

contributing to the

findings of this research.

Thank you very much for helping with this study. Please check to see if there are more questions overleaf.

Appendix 7

Reliability and Validity of Child Vignette Sub-Scales

Table 2: Overall Internal Consistency of Negative Attribution Subscale

Number of Cases	Number of Items on Scale	Cronbach's Alpha
18	18	0.926

Table 3: Correlation of Individual Items with Total Score and Internal Consistency of the Negative Attribution Subscale if Individual Items are Removed

	Item Correlation with Total score	Cronbach's Alpha if item Deleted
Negative Attribution Item 1	0.854	0.919
Negative Attribution Item 2	0.527	0.925
Negative Attribution Item 3	0.815	0.917
Negative Attribution Item 4	0.706	0.921
Negative Attribution Item 5	0.72	0.92
Negative Attribution Item 6	0.76	0.92
Negative Attribution Item 7	0.808	0.919
Negative Attribution Item 8	-0.146	0.935
Negative Attribution Item 9	0.541	0.931
Negative Attribution Item 10	0.807	0.919
Negative Attribution Item 11	0.782	0.921
Negative Attribution Item 12	0.855	0.92
Negative Attribution Item 13	0.648	0.924
Negative Attribution Item 14	0.375	0.928
Negative Attribution Item 15	0.733	0.92
Negative Attribution Item 16	0.752	0.919
Negative Attribution Item 17	0.719	0.921
Negative Attribution Item 18	0.572	0.924

Table 4: Internal Consistency of Punishment Subscale of Child Vignettes

Number of Cases	Number of Items on Scale	Cronbach's Alpha
18	18	0.864

Table 5: Correlation of Individual Items with Total Score and Internal Consistency of the Punishment Subscale if Individual Items are Removed

	Item Correlation with Total score	Cronbach's Alpha if item Deleted
Punishment Item 1	0.215	0.865
Punishment Item 2	0.772	0.845
Punishment Item 3	0.765	0.842
Punishment Item 4	0.55	0.859
Punishment Item 5	0.215	0.865
Punishment Item 6	0.91	0.832
Punishment Item 7	0.443	0.859
Punishment Item 8	0	0.867
Punishment Item 9	0.839	0.838
Punishment Item 10	0.59	0.857
Punishment Item 11	-0.021	0.868
Punishment Item 12	-0.021	0.868
Punishment Item 13	0.603	0.855
Punishment Item 14	0	0.867
Punishment Item 15	0.364	0.862
Punishment Item 16	0.92	0.831
Punishment Item 17	0.427	0.864
Punishment Item 18	0.521	0.859

Table 6: Internal Consistency of Total scale of Child Vignettes

Number of Cases	Number of Items on Scale	Cronbach's Alpha
18	36	0.93

Table 7: Correlation of Individual Items with Total Score and Internal Consistency of the Total Score Subscale if Individual Items are Removed

	Item Correlation with Total score	Cronbach's Alpha if item Deleted
Punishment Item 1	0.655	0.928
Punishment Item 2	0.579	0.927
Punishment Item 3	0.382	0.93
Punishment Item 4	0.386	0.929
Punishment Item 5	0.655	0.928
Punishment Item 6	0.77	0.924
Punishment Item 7	0.766	0.926
Punishment Item 8	0	0.93
Punishment Item 9	0.603	0.927
Punishment Item 10	0.451	0.929
Punishment Item 11	-0.062	0.931
Punishment Item 12	-0.062	0.931
Punishment Item 13	0.223	0.93
Punishment Item 14	0	0.93
Punishment Item 15	0.567	0.928
Punishment Item 16	0.691	0.926
Punishment Item 17	0.279	0.93
Punishment Item 18	0.154	0.93
Negative Attribution Item 1	0.764	0.925
Negative Attribution Item 2	0.421	0.929
Negative Attribution Item 3	0.72	0.925
Negative Attribution Item 4	0.585	0.927
Negative Attribution Item 5	0.637	0.926
Negative Attribution Item 6	0.775	0.924
Negative Attribution Item 7	0.704	0.926
Negative Attribution Item 8	0.119	0.931
Negative Attribution Item 9	0.494	0.931
Negative Attribution Item 10	0.802	0.925

Negative Attribution Item 11	0.624	0.927
Negative Attribution Item 12	0.718	0.926
Negative Attribution Item 13	0.571	0.928
Negative Attribution Item 14	0.37	0.93
Negative Attribution Item 15	0.769	0.925
Negative Attribution Item 16	0.682	0.926
Negative Attribution Item 17	0.658	0.926
Negative Attribution Item 18	0.691	0.926

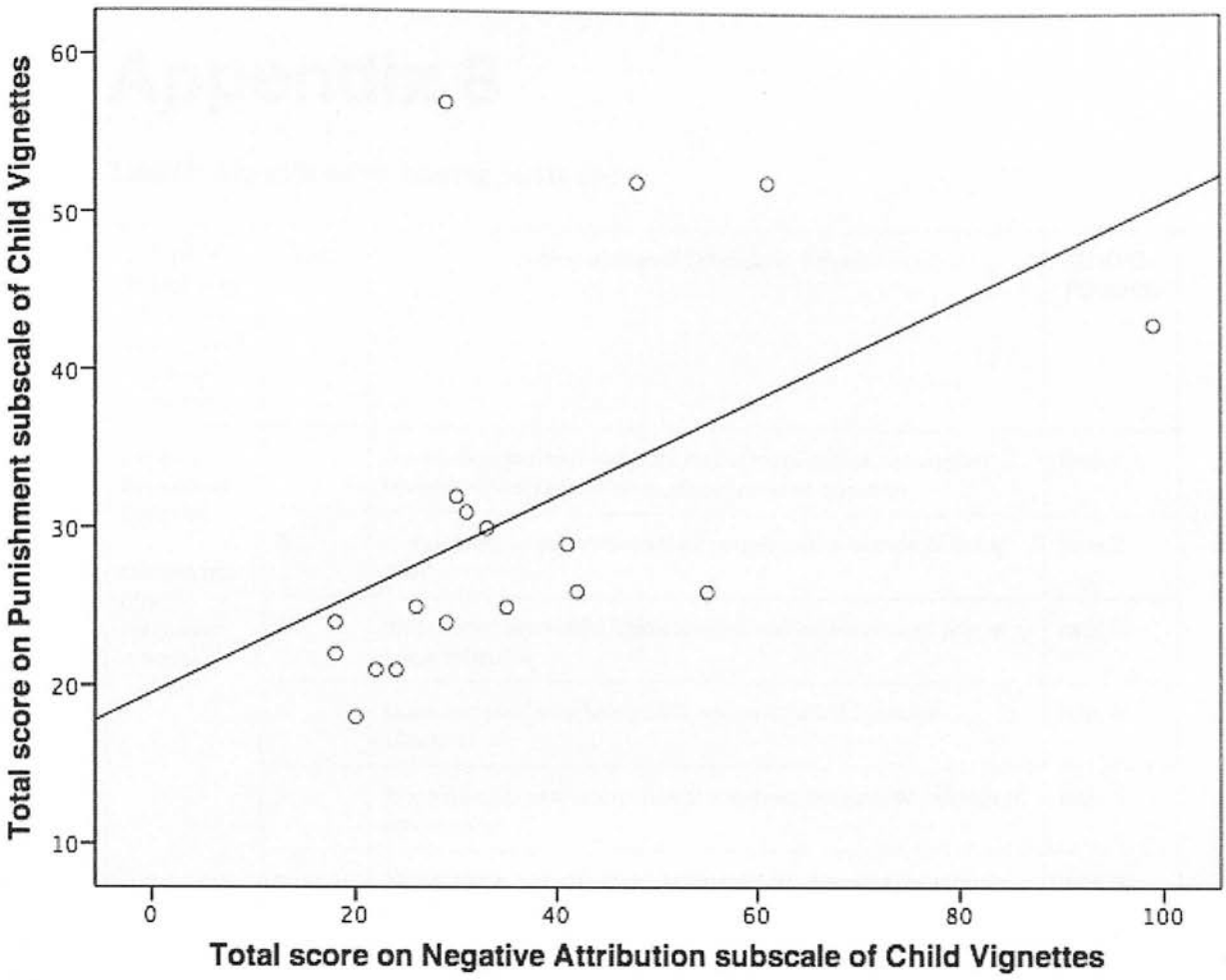

Figure 1: Scatter plot of the relationship between the Punishment and Negative Attribution Subscales of the Child Vignettes

Table 8: Inter-scale Validity of Negative Attribution and Punishment Subscales

Number of Cases	Spearman's Rank Order Correlation Coefficient	Significance
18	0.705	p= 0.001

Appendix 8

Table 9: Algorithms for scoring SCID-II-PQ

Type of Personality Disorder and Clinical Cut-Off Scores	Criteria	Description of Diagnostic Criteria	SCID-II-PQ Items
Avoidant Personality Disorder (Screen cut-off≥ 5 diagnostic criteria)	1	Avoids occupational activities that involve significant contact because of fears of criticism, disapproval or rejection.	Item 1
	2	Is unwilling to get involved with people unless certain of being liked	Item 2
	3	Shows restraint within intimate relationships because of fear of being ridiculed	Item 3
	4	Is preoccupied with being criticised or rejected in social situations	Item 4
	5	Is inhibited in new interpersonal situations because of feelings of inadequacy	Item 5
	6	Views self as socially inept, personally unappealing, or inferior to others	Item 6
	7	Is unusually reluctant to take personal risks or to engage in new activities because they may prove embarrassing.	Item 7
Dependent Personality Disorder (Screen cut-off≥ 6 diagnostic criteria)	1	Has difficult making everyday decisions without an excessive amount of advise and reassurance from others.	Item 8
	2	Needs others to assume responsibility for most major areas of his or her life	Item 9
	3	Has difficulty expressing disagreement with others because of fear of loss of support or approval	Item 10
	4	Has difficulty initiating projects or doing things on his or her own (due to lack of self-confidence in judgment or abilities rather than due to a lack of motivation or energy.	Item 11
	5	Goes to excessive lengths to obtain nurturance and support from others, to the point of volunteering to do things that are unpleasant.	Item 12
	6	Feels uncomfortable or helpless when alone, because of exaggerated fears of being unable to care for him or herself.	Item 13
	7	Urgently seeks another relationship as a source of care and support when a close relationship ends.	Item 14
	8	Is unrealistically preoccupied with fears of being left to take care of him or herself.	Item 15

Type of Personality Disorder and Clinical Cut-Off Scores	Criteria	Description of Diagnostic Criteria	SCID-II-PQ Items
Obsessive-compulsive Personality Disorder (Screening clinical cut-off ≥ 5 diagnostic criteria)	1	Is preoccupied with details, rules, lists, order, organisation or schedules to the extent that the major point of the activity is lost.	Item 16
	2	Show perfectionism that interferes with task completion (e.g. is unable to complete a project because his or her own overly strict standards are not met.	Item 17
	3	Is excessively devoted to work and productivity to the exclusion of leisure activities and friendships.	Item 18
	4	Is overconscientious, scrupulous and inflexible about matters of morality, ethics or values.	Item 19
	5	Is unable to discard worn out to worthless objects even when they have no sentimental value.	Item 20
	6	Is reluctant to delegate tasks or to work with others unless they submit to exactly his or her way of doing things.	Item 21
	7	Adopts a miserly spending style towards both self and others unless money is viewed as something to be hoarded for future catastrophes.	Item 22
	8	Show rigidity and stubbornness.	Item 23/24
Passive-aggressive Personality Disorder (Screening clinical cut-off ≥ 5 diagnostic criteria)	1	Passively resists fulfilling routine social and occupational tasks	Item 25/26
	2	Complains of being misunderstood and unappreciated by others.	Item 27
	3	Is sullen and argumentative.	Item 28
	4	Unreasonably criticizes and scorns authority.	Item 29
	5	Expresses envy and resentment toward those apparently more fortunate.	Item 30
	6	Voices exaggerated and persistent complaints of personal misfortune.	Item 31
	7	Alternates between hostile defiance and contrition.	Item 32
Depressive Personality Disorder (Screening clinical cut-off ≥ 6 diagnostic criteria)	1	Usual mood is dominated by dejection, gloominess, cheerlessness, joylessness, unhappiness.	Item 33
	2	Self-concept centers around beliefs of inadequacy, worthlessness, and low self-esteem.	Item 34
	3	Is critical, blaming, and derogatory toward self.	Item 35
	4	Is brooding and given to worry.	Item 36
	5	Is negativistic, critical, and judgmental toward others.	Item 37/38
	6	Is pessimistic.	Item 39
	7	Is prone to feeling guilty or remorseful.	Item 40

Type of Personality Disorder and Clinical Cut-Off Scores	Criteria	Description of Diagnostic Criteria	SCID-II-PQ Items
Paranoid Personality Disorder (Screening Clinical Cut-off ≥ 5 diagnostic criteria)	1	Suspects without sufficient basis, that others are exploiting harming or deceiving him or her.	Item 41
	2	Is preoccupied with unjustified doubts about the loyalty or trustworthiness of friends or associates.	Item 42
	3	Is reluctant to confide in others because of unwarranted fear that the information will be used maliciously against him or her.	Item 43
	4	Reads hidden demeaning or threatening meaning into benign remarks or events.	Item 44
	5	Persistently bears grudges i.e. is unforgiving of insults, injuries or slights.	Item 45
	6	Perceives attacks on his or her character or reputation that are not apparent to others and is quick to react angrily or counterattack.	Item 47
	7	Has recurrent suspicions, without justification, regarding fidelity of spouse or sexual partner.	Item 48
Schizotypal Personality Disorder (Screening clinical cut-off ≥ 4 diagnostic criteria)	1	Ideas of reference (excluding delusions of reference)	≥2 of Items 49, 50 or 51
	2	Odd beliefs or magical thinking that influences behaviour and is inconsistent with sub-cultural norms (e.g. superstitiousness, belief in clairvoyance, telepathy or 6th sense in children and adolescents, bizarre fantasies or preoccupations)	All of Items 52, 53 & 54.
	3	Unusual perceptual experiences, including bodily illusions.	≥2 of Items 55, 56 or 57
	4	Odd thinking and speech (e.g. vague, circumstantial, metaphorical, overelaborate or stereotyped)	N/A
	5	Suspiciousness or paranoid ideation.	≥4 of 41, 42, 43, 44, 48
	6	Inappropriate or restricted affect	N/A
	7	Behaviour or appearance that is odd, eccentric or peculiar.	N/A
	8	Lack of close friends or confidants other than first degree relatives.	Item 58
	9	Excessive social anxiety that does not diminish with familiarity and tends to be associated with paranoid fears rather than negative judgements about self.	Item 59

Type of Personality Disorder and Clinical Cut-Off Scores	Criteria	Description of Diagnostic Criteria	SCID-II-PQ Items
Schizoid Personality Disorder (Screening clinical cut-off ≥ 5 diagnostic criteria)	1	Neither desires nor enjoys close relationships, including being part of a family.	Item 60
	2	Almost always chooses solitary activities.	Item 61
	3	Has little, if any, interest in having sexual experiences with another person.	Item 62
	4	Takes pleasure in few, if any, activities.	Item 63
	5	Lack of close friends or confidants other than first degree relatives.	Item 58
	6	Appears indifferent to the praise or criticism of others.	Item 64
	7	Shows emotional coldness, detachment or flattened affectivity.	Item 65
Histrionic Personality Disorder (Screening clinical cut-off ≥ 6 diagnostic criteria)	1	Is uncomfortable in situations in which he or she is not the centre of attention.	Item 66
	2	Interaction with others is often characterised by inappropriate sexually seductive or provocative behaviour.	Item 67
	3	Displays rapidly shifting and shallow expression of emotions.	N/A
	4	Consistently uses physical appearance to draw attention to self.	Item 69
	5	Has style of speech that is excessively impressionistic and lacking in detail.	N/A
	6	Shows self-dramatisation, theatricality and exaggerated expression of emotion.	Item 70
	7	Is suggestible, i.e. easily influenced by others and circumstances.	Item 71
	8	Considers relationships to be more intimate than they actually are	Item 72

Type of Personality Disorder and Clinical Cut-Off Scores	Criteria	Description of Diagnostic Criteria	SCID-II-PQ Items
Narcissistic Personality Disorder (Screening clinical cut-off ≥ 6 diagnostic criteria)	1	Has grandiose sense of self-importance (eg exaggerates achievements and talents, expects to be recognised as superior without commensurate achievements)	Both Item 73 & 74
	2	Is preoccupied with fantasies of unlimited success, power, brilliance, beauty or ideal love	Item 75
	3	Believes that he or she is special and unique and can only be understood by, or should associate with,other special or high-status people (or institutions)	Item 77 & 78
	4	Requires excessive admiration	Item 79
	5	Has a sense of entitlement, i.e. unreasonable expectations of especially favourable treatment or automatic compliance with his or her expectations	Item 81
	6	Is interpersonally exploitative, i.e. takes advantage of others to achieve his or her own ends	≥2 Item 82, 83, & 84
	7	Lacks empathy: is unwilling to recognise or identify with the feelings and needs of others	Item 85
	8	Is often envious of others or believes that others are envious of him or her	Item 87 or 88
	9	Shows arrogant, haughty behaviours or attitudes	Item 89
Borderline Personality Disorder (Screening clinical cut-off ≥ 6 diagnostic criteria)	1	Frantic efforts to avoid real or imagined abandonment	Item 90
	2	A pattern of unstable and intense interpersonal relationships characterised by alternating between extremes of idealisation and devaluation	Item 91
	3	Identity disturbance: markedly and persistently unstable self-image or sense of self	All of 92, 93, 94 & 95
	4	Impulsivity in at least 2 areas that are potentially self-damaging (eg spending, sex, substance abuse, reckless driving, binge eating)	Item 96
	5	Recurrent suicidal behaviour, gestures, or threats, or self-mutilating behaviour	Item 97 & 98
	6	Affective instability due to a marked reactivity of mood (eg intense episodic dysphoria, irritability or anxiety, usually lasting a few hours and only rarely more than a few days	Item 99
	7	Chronic feelings of emptiness	Item 100
	8	Inappropriate, intense anger or difficulty controlling anger (eg frequent displays of temper, constant anger, recurrent physical fights	≥2 Items 101, 102 & 103
	9	Transient, stress-related paranoid ideation or severe dissociative symptoms	Item 104

Type of Personality Disorder and Clinical Cut-Off Scores	Criteria	Description of Diagnostic Criteria	SCID-II-PQ Items
Conduct Disorder (Part one of Anti-social Personality Disorder) (Screening clinical cut-off ≥ 3 diagnostic criteria)	1	Before age 15 often bullied, threatened or intimidated others	Item 105
	2	Before age 15 often initiated physical fights	Item 106
	3	Before age 15 has used a weapon that can cause serious harm to others (eg a bat, brick, broken bottle, knife or gun)	Item 107
	4	Before age 15 has been physically cruel to people	Item 108
	5	Before age 15 has been physically cruel to animals	Item 109
	6	Before age 15 has stolen while confronting a victim (eg mugging, purse snatching, extortion, armed robbery)	Item 110
	7	Before age 15 has forced someone into sexual activity	Item 111
	8	Before age 15 has deliberately engaged in fire setting with the intention of causing serious damage	Item 112
	9	Before age 15 has deliberately destroyed other's property (other than by fire setting)	Item 113
	10	Before age 15 has broken into someone else's house, building or car	Item 114
	11	Before age 15 often lies to obtain goods or favours or to avoid obligations (i.e. cons others)	Item 115
	12	Before age 15 has stolen items of non trivial value without confronting a victim (e.g. shoplifting, stealing but without breaking and entering, forgery)	Item 116
	13	Before age 15 has run away from home overnight at least twice while living in parental home or parentalsurrogate home (or once without returning for a lengthy period)	Item 117
	14	Before age 13 often stayed out at night despite parental prohibitions	Item 118
	15	Before age 13 often truant from school	Item 119

APPENDIX 9

Lothian NHS Board

10 DEC 2009

South East Scotland Research Ethics Committees
Deaconess House
148 Pleasance
Edinburgh
EH8 9RS
Telephone 0131 536 9000
Fax 0131 536 9346
www.nhslothian.scot.nhs.uk

NHS Lothian

09 December 2009

Ms Claire Norfolk
Specialist Psychological Practitioner
NHS Lothian
Child & Adolescent Mental Health
Edenhall Hospital
Edenhall Road, Musselburgh
EH21 7TZ

Date 09 December 2009
Our Ref. 09/S1101/59
Enquiries Emily Pendleton
Extension 89028
Direct Line 0131 536 9028
emily.pendleton@nhslothian.scot.nhs.uk

Dear Ms Norfolk

Study Title: **The Neglected Parental Mental Health Problem? Parental Personality Disorder: a Preliminary Exploration of Personality Disordered Parents' Attributions of Children's Behaviour**
REC reference number: **09/S1101/59**
Protocol number: **2**

The Research Ethics Committee reviewed the above application at the meeting held on 03 December 2009. Thank you for attending to discuss the study.

Ethical opinion

The members of the Committee present gave a favourable ethical opinion of the above research on the basis described in the application form, protocol and supporting documentation, subject to the conditions specified below.

Ethical review of research sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

NHS
Lothian

- Under "Will the information I give you be confidential?" of the Patient Information Sheet for parents with a cluster B personality make it clear that the parent should seek help and support immediately if they feel upset or suicidal. → Changes made to Confidential & distress/harm section
- Confirm that only parents who know their diagnosis will be invited to take part. (added to clinician info sheet.
- Confirm that the researcher will obtain explicit permission from the Caldicott Guardian for the project. – add to methodology section of IRAS form.
- The Committee suggest trying the questionnaires on patients with mental health problems and personality disorders to estimate how long the questionnaires take to complete.

ash Naomi

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

For NHS research sites only, management permission for research ("R&D approval") should be obtained from the relevant care organisation(s) in accordance with NHS research governance arrangements. Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at http://www.rdforum.nhs.uk. Where the only involvement of the NHS organisation is as a Participant Identification Centre, management permission for research is not required but the R&D office should be notified of the study. Guidance should be sought from the R&D office where necessary.

Sponsors are not required to notify the Committee of approvals from host organisations.

It is responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Approved documents

The documents reviewed and approved at the meeting were:

Document	*Version*	*Date*
Covering Letter		28 October 2009
REC application	2	28 October 2009
Protocol	2	28 October 2009
Participant Information Sheet: Parents with mild to moderate mental health difficulties	2	28 October 2009
Participant Information Sheet: parents with a Cluster B Personality Disorder	2	28 October 2009
Participant Consent Form: Parents with mild to moderate mental health difficulties	2	28 October 2009
Participant Consent Form: parents with a Cluster B Personality Disorder	2	28 October 2009
GP/Consultant Information Sheets	2	28 October 2009

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Letter from Sponsor		
Summary/Synopsis	2	28 October 2009
Questionnaire: parents with a Cluster B Personality Disorder	2	28 October 2009
Questionnaire: Parents with mild to moderate mental health difficulties	2	28 October 2009
Clinicain Information Sheet Parents Cluster B	2	28 October 2009
Clinicain Information Sheet Parents Mild to Moderate Mental Health	2	28 October 2009

Membership of the Committee

The members of the Ethics Committee who were present at the meeting are listed on the attached sheet.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Now that you have completed the application process please visit the National Research Ethics Service website > After Review

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

The attached document "After ethical review – guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

We would also like to inform you that we consult regularly with stakeholders to improve our service. If you would like to join our Reference Group please email referencegroup@nres.npsa.nhs.uk.

09/S1101/59 **Please quote this number on all correspondence**

NHS
Lothian

With the Committee's best wishes for the success of this project

Yours sincerely

pp

Mr Nicholas Grier
Chair

Email: emily.pendleton@nhslothian.scot.nhs.uk

Enclosures: *List of names and professions of members who were present at the meeting and those who submitted written comments*
"After ethical review – guidance for researchers"

Copy to: *Ms Elspeth Currie*

Appendix 10

Participant Information Sheet for Index Parents Recruited within NHS

Participant Information Sheet

Understanding Children's Behaviour; the Role of Parental Mental Health

You are being invited to take part in a research study. Before you decide whether you would like to take part, it is important that you understand why the research is being done and what it will involve. Please take the time to read the following information and discuss it with others if you wish. You may also want to ask your clinician or the researcher questions about the study before you decide whether you wish to take part.

What is the aim of the study?

We know that many people with Borderline, Narcissistic, Antisocial and Histrionic Personality Disorders, can find it very difficult to trust other people and to feel secure in their relationships with other people. People with these personality disorders often have to cope with troublesome emotions and feelings about themselves and other people. This can make relationships difficult. However, very little is known about the relationships that parents with these personality disorders have with their children.

Many people with Borderline, Narcissistic, Antisocial and Histrionic personality disorders have had difficult experiences in their own childhood. This may make it more difficult for them as a parent. However, research has also found that parents can see the relationship with their child differently from other relationships in their lives and this can often be a particularly positive relationship: "She is a chance to make things right; "She is the most important person in my life" [1] In this study, we would like to learn more about the way parents with personality disorders see their children and understand children's behaviour.

Why have I been chosen?

Your clinician or key worker has asked you if you would like to take part because you have been given a diagnosis of Cluster B personality disorder and are a parent or carer of a child between 3 and 16 years old. Cluster B personality disorders include Borderline, Narcissistic, Antisocial and Histrionic Personality Disorders. We hope to learn more about the experiences of parents with these personality disorders by comparing your results with those of parents who do not have this condition.

Do I have to take part?

No. It is entirely up to you whether you would like to take part in this study. If you decide to take part you will be given this information sheet to keep and will be asked to sign a consent form. You will be free to withdraw at any time and without giving a reason. If you choose not to participate, or wish to withdraw at any time, this will not in any way affect the care you receive from your clinician or key worker.

What would be involved if I choose to take part?

If you choose to take part in this study, your clinician will give you a consent form and a questionnaire to complete. The questionnaire will describe examples of children's behaviour and will ask you about how you would feel or respond to these and what you would see as the reasons for the behaviour. The questionnaire will also ask you about your own child's behaviour and about your general mental health. It will take approximately 20 minutes to complete the questionnaire. Once you have completed the consent form and the questionnaire, you will be asked to return them to the researcher or, if it is easier for you, you can return them to your clinician, who will forward them to the researcher.

Because this is a scientific study, the researcher will be required to access your case notes to confirm the details of your personality disorder and who diagnosed it. Only the researcher will have access to this information. The researcher will not add anything to your notes or read any other information that may be held there. As this study is an NHS study, the researcher will also write to your GP to let them know that you will be taking part in the study. We will not share any other information with the GP.

Will the information I give you be confidential?

All the information collected in the study will be kept in the strictest of confidence by the researcher, who is bound by the same duty of confidentiality as your mental health clinician. The information will not be shared with anyone else involved with you or your children. If you have any questions about this aspect of the study, please feel free to contact the researcher.

What are the possible disadvantages or risks of taking part?

The questionnaire will ask you questions about children's behaviour and your child's well-being. It is possible that, as a result of your own childhood experiences or your relationship with your children, you may find these questions distressing or upsetting. The questionnaire will also ask you about your own well-being and any suicidal thoughts. If you find any of these questions distressing or feel suicidal, we would like you to try to find support from someone you feel comfortable with as soon as possible. This might be your clinician or someone else involved in supporting your mental health. You may prefer to speak to someone who is not involved in your care, and possible sources of support are listed below:

Breathing Space	0800 83 85 87	
Samaritans	08457 90 90 90	jo@samaritans.org

It is possible that the study may also raise concerns for you about your children's behaviour or well-being. If you have any such concerns, you would be able to discuss these with your clinician or someone else involved in supporting your mental health. The research staff would also be very happy to help you with any concerns you have, or you may prefer to speak to child or family services for support. For your information, we have listed some of these services overleaf.

What are the possible benefits of taking part?

The aim of the study is to get information that may help us better to understand the way parents with Cluster B personality disorders understand their children's behaviour. This may not have an immediate benefit for you but may benefit others in the future. The information will help us find out if more research needs to be done in this area, and to see if new or different services need to be set up to help parents with these personality disorders get the support they need for themselves and their families.

Can I get feedback about the study findings?

Once the research study is finished, we would like to give you the chance to find out what we have learned. If you would like to receive feedback about the study or feedback about your individual responses, we would be happy to write to you to let you know what we have learned. You are free to choose whether or not you would like to receive any feedback about the study. You can indicate your choices about feedback on the consent form.

What will happen to the results of the study?

The researcher will write up the results of the study as part of her doctoral degree in psychology. We also hope to publish the results of the study in a specialist mental health journal. The findings of the research will also be shared with services who support parents with Cluster B personality disorders so that they may better understand how to support parents with these personality disorders. No one participating in the study would be able to be identified in the results or publications arising from this research.

Who can I speak to about the study?

You should feel free to think about taking part for as long as you want. If you would like more information on the study or would like to discuss any concerns you have about it, please contact the researcher who will be happy to answer any questions you may have and to help you with any concerns that the study has raised. The researcher is Claire Norfolk, 0131 536 8188; Claire.Norfolk@nhs.net

If you would prefer to speak to someone who is independent of the study you may also contact Dr Louise Duffy, Consultant Clinical Psychologist, NHS Lothian Health Trust, 0131 537 6364; Louise.Duffy@nhslothian.scot,nhs.uk

Thank you for taking the time to read this information sheet and for considering whether you would like to take part.

Yours sincerely,

Claire Norfolk
Specialist Psychological Practitioner
Tel: 0131 536 8188
Email: Claire.Norfolk@nhs.net

Appendix 11

Participant Information Sheet for Index Parents Recruited out with the NHS

Participant Information Sheet

Understanding Children's Behaviour; the Role of Parental Mental Health

You are being invited to take part in a research study. Before you decide whether you would like to take part, it is important that you understand why the research is being done and what it will involve. Please take the time to read the following information and discuss it with others if you wish. You may also want to ask the researcher questions about the study before you decide whether you wish to take part.

What is the aim of the study?

We know that many people with Borderline, Narcissistic, Antisocial and Histrionic Personality Disorders, can find it very difficult to trust other people and to feel secure in their relationships with other people. People with these personality disorders often have to cope with troublesome emotions and feelings about themselves and other people. This can make relationships difficult. However, very little is known about the relationships that parents with these personality disorders have with their children.

Many people with Borderline, Narcissistic, Antisocial and Histrionic personality disorders have had difficult experiences in their own childhood. This may make it more difficult for them as a parent. However, research has also found that parents can see the relationship with their child differently from other relationships in their lives and this can often be a particularly positive relationship: "She is a chance to make things right; "She is the most important person in my life". In this study, we would like to learn more about the way parents with personality disorders see their children and understand children's behaviour.

Why have I been chosen?

You have been asked if you would like to take part because we understand that you have been given a diagnosis of Cluster B personality disorder and are a parent or carer of a child between three and sixteen years old. Cluster B personality disorders include Borderline, Narcissistic, Antisocial and Histrionic Personality Disorders. We hope to learn more about the experiences of parents with these personality disorders by comparing your results with those of parents who do not have this condition.

Do I have to take part?

No. It is entirely up to you whether you would like to take part in this study. If you decide to take part you will be asked to sign a consent form. You will be free to withdraw at any time and without giving a reason.

What would be involved if I choose to take part?

If you choose to take part in this study, you will be asked to complete a questionnaire. The questionnaire will describe examples of children's behaviour and will ask you about how you would feel or respond to these and what you would see as the reasons for the behaviour. The questionnaire will also ask you about your own child's behaviour and about your general mental health. It will take approximately 20 minutes to complete the questionnaire. Once you have completed the consent form and the questionnaire, you will be asked to return them to the researcher.

Because this is a scientific study, the researcher will be required to confirm your diagnosis of a personality disorder with someone involved in your health care. This could be your GP or another professional involved in supporting your mental health. You will be able to choose who you would like us to contact to request this information from. The researcher will also write to this individual to let them know that you will be taking part in the study. We will not request or share any other information with this individual. Only the researcher will have access to the information provided by this individual. You can indicate who you would like this individual to be on the consent form.

Will the information I give you be confidential?

All the information collected in the study will be kept in the strictest of confidence by the researcher, who is bound by the same duty of confidentiality as your mental health clinician. The information will not be shared with anyone else involved with you or your children. If you have any questions about this aspect of the study, please feel free to contact the researcher.

What are the possible disadvantages or risks of taking part?

The questionnaire will ask you questions about children's behaviour and your child's well-being. It is possible that, as a result of your own childhood experiences or your relationship with your children, you may find these questions distressing or upsetting. The questionnaire will also ask you about your own well-being and any suicidal thoughts. If you find any of these questions distressing or feel suicidal, we would like you to try to find support from someone you feel comfortable with as soon as possible. This might be your GP or someone else involved in supporting your mental health. You may prefer to speak to someone who is not involved in your care, and possible sources of support are listed below:

Breathing Space	0800 83 85 87	
Samaritans	08457 90 90 90	jo@samaritans.org

It is possible that the study may also raise concerns for you about your children's behaviour or well-being. If you have any such concerns, you could discuss these with your GP or someone else involved in supporting your mental health. The research staff would also be very happy to help you with any concerns you have, or you may prefer to speak to child or family services for support. For your information, we have listed some of these services overleaf.

What are the possible benefits of taking part?

The aim of the study is to get information that may help us better to understand the way parents with Cluster B personality disorders understand their children's behaviour. This may not have an immediate benefit for you but may benefit others in the future. The information will help us find out if more research needs to be done in this area, and to see if new or

different services need to be set up to help parents with these personality disorders get the support they need for themselves and their families.

Can I get feedback about the study findings?

Once the research study is finished, we would like to give you the chance to find out what we have learned. If you would like to receive feedback about the study or feedback about your individual responses, please contact us and we will send you a copy of the study's findings and/or the nature of your individual responses.

What will happen to the results of the study?

The researcher will write up the results of the study as part of her doctoral degree in psychology. We also hope to publish the results of the study in a specialist mental health journal. The findings of the research will also be shared with services who support parents with Cluster B personality disorders so that they may better understand how to support parents with these personality disorders. No one participating in the study would be able to be identified in the results or publications arising from this research.

Who can I speak to about the study?

You should feel free to think about taking part for as long as you want. If you would like more information on the study or would like to discuss any concerns you have about it, please contact the researcher who will be happy to answer any questions you may have and to help you with any concerns that the study has raised: Claire Norfolk, 0131 536 8188; Claire.Norfolk@nhs.net .

If you would prefer to speak to someone who is independent of the study you may also contact Dr Louise Duffy, Consultant Clinical Psychologist, NHS Lothian Health Trust, 0131 537 6364; Louise.Duffy@nhslothian.scot.nhs.uk .

Thank you for taking the time to read this information sheet and for considering whether you would like to take part.

Yours sincerely,

Claire Norfolk
Specialist Psychological Practitioner
Tel: 0131 536 8188
Email: Claire.Norfolk@nhs.net

Appendix 12

Participant Information Sheet for Control Parents

Participant Information Sheet

Understanding Children's Behaviour; the Role of Parental Mental Health

You are being invited to take part in a research study. Before you decide whether you would like to take part, it is important that you understand why the research is being done and what it will involve. Please take the time to read the following information and to discuss it with others if you wish. You may also want to ask your clinician or the researcher any questions you have about the study before you decide whether you wish to take part.

What is the aim of the study?

We know that adult mental heath services sometimes fail to find out about the wider family issues that may face parents with mental health difficulties. As a result, clinicians often do not fully understand the way children affect their parents' mental health and vice versa. In this study we would like to find out more about the experiences of parents with different types of mental health problem. The study uses questionnaires to look firstly at the way parents understand their child's behaviour and secondly to look at the concerns their child's behaviour creates for them.

Why have I been chosen?

Your clinician has asked you if you would like to take part in the study because you are currently seeing a psychologist for support with symptoms of mild to moderate depression or anxiety. You are also the parent or carer of a child between 3 and 16 years old. We hope to learn more about the experiences of parents with different types of mental health problems by comparing your results with parents who experience more severe mental health difficulties.

Do I have to take part?

No. It is entirely up to you whether you would like to take part in this study. If you decide to take part you will be given this information sheet to keep and will be asked to complete a questionnaire. You will still be free to withdraw at any time and without giving a reason. If you choose not to participate, or wish to withdraw at any time, this will not in any way affect the care you receive from your clinician or key worker.

What would be involved if I choose to take part?

If you are interested in taking part in this study, your clinician will give you a questionnaire which you will be asked to complete. The questionnaire will describe examples of children's behaviour and will ask you about how you would feel about or respond to such behaviour. The questionnaire will also ask you about your own child's behaviour. Finally, it will ask you some questions about your personality and mental health. It will take approximately 20-30 minutes to complete the questionnaire. Once you have completed the questionnaire, you will be asked to return it to the researcher or, if it is easier for you, you can return it to your clinician, who will forward it to the researcher. As this is an NHS study, the researcher will write to your GP to let them know that you are taking part in the study.

Will the information I give you be confidential?

The questionnaire will be completely anonymous. There will be no way of matching the information you provide us with to any personally identifiable information. All the information collected will be kept in the strictest of confidence and will be stored securely.

Can I get feedback about the study findings?

As your responses will be completely anonymous, we will not be able to give you any feedback about your own answers in the questionnaires. We will, however, be able to give you a copy of the study's key findings. Please contact us if you would like us to send you a copy of the study's findings at the conclusion of the research.

What are the possible disadvantages or risks of taking part?

In the questionnaire you will be asked some questions about your personality and your mental health. You might find some of these questions quite personal or sensitive. If you are distressed in any way, you will be able to discuss this with your clinician, who will be happy to provide any necessary support you require.

It is possible that completing the questionnaire may raise questions for you about your child's behaviour or your own health. If you have any such concerns, again you will be able to discuss these with your clinician. The research staff will also be very happy to discuss your concerns with you and help you to find the support you need. You would also be able to contact child or family services for support. For your information, we have listed some services for children and family in a separate information leaflet overleaf.

What are the possible benefits of taking part?

This study will help us to understand the concerns that parents with different types of mental health difficulty have about their children's behaviour and the way they understand their children's behaviour. We hope this information will help us to understand the wider family issues for parents with mental health difficulties. This may not have an immediate benefit for you but may benefit others in the future.

What will happen to the results of the study?

The researcher will write up the results of the study as part of her doctoral degree in psychology. We would also hope to write up the results of the study for publication in a specialist mental health journal. The findings of the research would be shared with the Department of Clinical Psychology, so they may be better informed about the concerns of parents attending their service. No one participating in the study will be able to be identified in the results or publications arising from this research.

Who can I speak to about the study?

You should feel free to think about taking part for as long as you want. If you would like more information about the study or would like to discuss any concerns you may have, please contact the researcher who will be happy to answer your questions and to help you with any concerns that the study has raised: Claire Norfolk, 0131 536 8188; Claire.Norfolk@nhs.net .

If you would prefer to speak to someone who is independent of the study you may also contact Dr Louise Duffy, Consultant Clinical Psychologist at the NHS Lothian Health Trust,

0131 537 6364, Louise.Duffy@nhslothian.scot,nhs.uk. Thank you for taking the time to read this information sheet and for considering whether you would like to take part.

Yours sincerely,

Claire Norfolk, Specialist Psychological Practitioner, Tel: 0131 536 8188, Email: Claire.Norfolk@nhs.net

Appendix 13

Clinician Information Sheet for Index Parents Recruited within NHS

Clinician Information Sheet

"Understanding Children's Behaviour; the Role of Parental Mental Health"

What is the aim of the study?

While there is an extensive body of research exploring the impact of parental mental health difficulties, such as anxiety and depression, on parents and children, the parenting issues for adults with Cluster B[2] personality disorders have been relatively neglected. This study aims to examine one particular aspect of the parent-child relationship, namely parents causal explanations for children's behaviour, to explore whether parents who meet diagnostic criteria for Cluster B personality disorders make different attributions in relation to children's behaviour than parents without a personality disorder diagnosis. The researcher will invite parents attending NHS and non-NHS mental health services in Scotland with a confirmed diagnosis of a Cluster B personality disorder to participate in the study.

What would be involved for participants?

Participants will be asked to complete a questionnaire exploring their understanding of children's behaviour; their concerns as parents around their own child's behaviour; and their levels of depressive symptoms. The questionnaire should take about 20 minutes to complete. The researcher will also seek to access parents' case notes to confirm their diagnosis of a personality disorder. All the information that participants provide will be treated with the strictest confidentiality. We will not share any information with the professionals involved with the parent or their children. Parents will, however, be given the option of whether they would like feedback about their individual responses on the questionnaire and/or feedback on the key findings of the study.

What are the possible risks to participants and what support may you need to offer?

While there is no evidence to indicate that the measures used in this questionnaire would be distressing to participants, it is possible that, as a result of individuals' own childhood experiences or their relationship with their children, they may become distressed on completing this questionnaire. Questions about their child's behaviour could also potentially raise concerns for parents about their child's well-being. Participants will be clearly informed of these possible risks and will be encouraged to seek support from their clinicians, the researcher or someone else involved in supporting their mental health if they feel distressed or are concerned in any of these areas. If participants are concerned about their children, you may wish to put them in touch with appropriate supports. We have provided a list of possible supports overleaf. This list will also be given to participants. As a result of these potential risks and the steps that we have taken to minimise risks to participants, it is possible that the study may lead to additional clinical demands on the clinician

[2]According to DSM-IV-TR Cluster B includes antisocial, borderline, narcissistic and histrionic personalty disorders. The study would also include clients with emotionally unstable, dissocial and histrionic personality disorders as classified by ICD-10.

What else will be involved for clinicians?

1. Clinicians will be asked to identify individuals on their current case load who have both:

- a confirmed and known diagnosis of a Cluster B personality disorder or equivalent diagnosis on ICD-10;
- and, a parental role with one or more children between 3-16 years of age

(parental role includes individuals who continue to have contact with their biological children but no longer act as the key care-giver & individuals are not the biological parent to the children but provide a core parental role, such as being a step-parent, foster parent or adopted parent)

Any individuals who meet the following criteria should not be included in the study:

i) a current or recent (within last 4 weeks) inpatient stay or suicide attempt;
ii) a comorbid mental health problem that is unstable at time of recruitment i.e. florid psychosis; and,
iii) severe symptoms of dissociation

2. Clinicians will be asked to approach potential participants to discuss the study, answer questions and to provide participants with the information sheet, consent form and questionnaire. Participants will be asked to complete and return the questionnaire and consent form to the researcher. It is possible that participants may choose to return their forms to you, in which case, we would ask you to forward these to the researcher.

3. Clinician will also be asked to complete the below information so that the researcher may inform the participant's GP their participation in the study. A letter will only be sent participants' GPs if they subsequently consent to participate.

Participant's Details:

Name of Participant:

Date of Birth:

Name of General Practitioner:

Address of General Practitioner:

Researcher Contact Details:

Claire Norfolk (Specialist Psychological Practitioner)
Claire.Norfolk@nhs.net, 07766092233

Appendix 14

Clinician Information Sheet for Control Parents

Clinician Information Sheet

"Understanding Children's Behaviour; the Role of Parental Mental Health"

What is the aim of the study?

Research has indicated that adult mental health services may sometimes neglect the wider systemic issues that exist for parents with mental health difficulties. In this study we would like to find out more about the experiences of parents with different types of mental health problem. In particular, we are interested in exploring the way parents with different mental health difficulties understand children's behaviour and the types of concerns that these parents have about their own children's behaviour. The study will explore this question by comparing the results of parents with mild to moderate anxiety and depression with parents who experience more severe mental health difficulties. You have been approached to help us to recruit participants in the former of these two groups.

What would be involved for participants?

Participants would be asked to complete a questionnaire exploring their understanding of children's behaviour; their concerns as parents around their own child's behaviour; and their mental health/personality. The questionnaire should take 20-30 minutes to complete. All the information that participants provide us with on the questionnaire will be completely anonymous. It will not be possible, therefore, to provide participants with any individual feedback on their results. However, participants will be able to request a copy of the study's findings if they would like general feedback.

What are the possible risks to participants & what support may I need to offer?

While there is no evidence to indicate that the measures used in this questionnaire would be distressing to participants, it is possible that participants may find some of the questions on the mental health and personality screening measures quite personal or sensitive. Participants will be clearly informed of these possible risks and will be encouraged to seek support from their clinicians if they are distressed as a result of the study.

Questions around their own mental health and their children's behaviour could also potentially raise concerns for participants about their own or their child's health. This possibility is outlined in the participant information sheet. The participant information sheet encourages parents to discuss any concerns about these areas with their clinician or the research staff who would be happy to help them to find the support they need. If parents are concerned about their children, you may wish to put them in touch with appropriate supports, we have provided a list of possible supports overleaf. This list will also be given to participants.
As a result of these potential risks and the steps that would be taken to minimise them for participants, it is possible that the study may lead to additional clinical demands for the clinician.

What else will be involved for clinicians?

1. Clinicians will be be asked to identify clients from their caseload who meet the following criteria:

- Primary presenting problem of an anxiety or depressive disorder
- Total score on the CORE-OM below 85 or total mean score below 2.5 (where available)
- A parental role with one or more children between 3-16 years of age

(parental role includes individuals who continue to have contact with their biological children but no longer act as the key care-giver & individuals are not the biological parent to the children but provide a core parental role, such as being a step-parent, foster parent or adopted parent)

2. Clinicians will then be asked to approach potential participants to discuss the study and to provide those participants interested in participating with a copy of the information sheet and questionnaire. Participants will be asked to complete the questionnaire and return it to the researcher. It is possible that participants may choose to return questionnaire to you, in which case, we would ask you forward it to us.

3. Clinician will also be asked to complete the below information to allow the researcher to inform participants' GPs of their potential involvement.

Participant's Details:

Name of Participant:

Date of Birth:

Name of General Practitioner:

Address of General Practitioner:

Researcher Contact Details:

Claire Norfolk (Specialist Psychological Practitioner)
Claire.Norfolk@nhs.net, 07766092233

Appendix 15

Key Worker/Facilitator Information Sheet for Index Parents Recruited out with NHS

Facilitator/Key Worker Information Sheet

"Understanding Children's Behaviour; the Role of Parental Mental Health"

What is the aim of the study?

While there is an extensive body of research exploring the impact of parental mental health difficulties, such as anxiety and depression, on parents and children, the parenting issues for adults with Cluster B[3] personality disorders have been relatively neglected. This study aims to examine one particular aspect of the parent-child relationship, namely parents causal explanations for children's behaviour, to explore whether parents who meet diagnostic criteria for Cluster B personality disorders make different attributions in relation to children's behaviour than parents without a personality disorder diagnosis. The researcher will invite parents attending NHS and non-NHS mental health services with a confirmed diagnosis of a Cluster B personality disorder to participate in the study.

What would be involved for participants?

Participants will be asked to complete a questionnaire exploring their understanding of children's behaviour; their concerns as parents around their own child's behaviour; and their levels of depressive symptoms. The questionnaire should take about 20 minutes to complete. The researcher will also ask participants to provide details of individual involved in their care whom they would be happy for the researcher to contact to confirm their diagnosis of a personality disorder with. All the information that participants provide will be treated with the strictest confidentiality. We will not share any information with the professionals involved with the parent or their children. Parents will, however, be given the option of whether they would like feedback about their individual responses on the questionnaire and/ or feedback on the key findings of the study.

What are the possible risks to participants and what support may you need to offer?

While there is no evidence to indicate that the measures used in this questionnaire would be distressing to participants, it is possible that, as a result of individuals' own childhood experiences or their relationship with their children, they may become distressed on completing this questionnaire. Questions about their child's behaviour could also potentially raise concerns for parents about their child's well-being. Participants will be clearly informed of these possible risks and will be encouraged to seek support from their key workers/facilitators, the researcher or someone else involved in supporting their mental health if they feel distressed or are concerned in any of these areas. If participants are

[3] According to DSM-IV-TR Cluster B includes antisocial, borderline, narcissistic and histrionic personalty disorders. The study would also include clients with emotionally unstable, dissocial and histrionic personality disorders as classified by ICD-10.

concerned about their children, you may wish to put them in touch with appropriate supports. We have provided a list of possible supports overleaf. This list will also be given to participants. As a result of these potential risks and the steps that we have taken to minimise risks to participants, it is possible that the study may lead to additional demands for key workers or facilitators.

What else will be involved for key workers/facilitators?

1. Key workers/facilitators will be asked to identify individuals within the service who have both:

- a confirmed and known diagnosis of a Cluster B personality disorder or equivalent diagnosis on ICD-10 ; and
- a parental role with one or more children between 3-16 years of age

(parental role includes individuals who continue to have contact with their biological children but no longer act as the key care-giver & individuals are not the biological parent to the children but provide a core parental role, such as being a step-parent, foster parent or adopted parent)

Any individuals who meet the following criteria should not be included in the study:

i) a current or recent (within last 4 weeks) inpatient stay or suicide attempt;
ii) a comorbid mental health problem that is *unstable* at time of recruitment i.e. florid psychosis; and,
iii) severe symptoms of dissociation

2. Key workers/facilitators will be asked to approach potential participants to discuss the study and to provide participants with the information sheet, consent form and questionnaire. Participants will be asked to complete and return the questionnaire and consent form to the researcher. It is possible that participants may choose to return their forms to you, in which case, we would ask you to forward these to the researcher.

Researcher Contact Details:

Claire Norfolk (Specialist Psychological Practitioner)
Claire.Norfolk@nhs.net, 07766092233

Appendix 16

Consent Form for Index Parents Recruited within the NHS

Consent Form

I agree to participate in the study "Understanding Children's Behaviour: the Role of Parental Mental Health". I have read the information sheet and I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason for doing so.

Please tick the boxes below:

I confirm that I have read and understood the information sheet for the above study and agree to participate by completing the questionnaire. ☐

I understand that by agreeing to participate in the study, I am agreeing to my mental health notes being examined by the lead researcher. ☐

I understand that the research forms part of the requirement for a doctoral degree in psychology and the findings may result in publication. ☐

Name of Participant: **Signature:** **Date:**

Name of Researcher: Claire Norfolk **Researcher Signature:** **Date:**

Choices about Feedback

Please tick the "yes" or "no" boxes below to let us know whether you would like to receive any feedback from the study:

	Yes	No
I would like to receive feedback about my individual responses on the questionnaire	☐	☐
I would like to be provided with a copy of the study's key findings	☐	☐

Participant Address:

Appendix 17

Consent Form for Index Parents Recruited Out with the NHS

Consent Form

I agree to participate in the study "Understanding Children's Behaviour: the Role of Parental Mental Health". I have read the information sheet and I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason for doing so.

Please tick the boxes below:

I confirm that I have read and understood the information sheet for the above study and agree to participate by completing the questionnaire. ☐

I understand that the research forms part of the requirement ☐

for a doctoral degree in psychology and the findings may result in publication.

I understand that, as this is a scientific study, the researcher will be required to contact an individual involved in my health care to confirm my personality disorder diagnosis. The contact details of this individual are recorded below: ☐

Name of Individual:

Address:

Telephone Number:

I give permission for the above individual to provide the researcher with the details of my personality disorder diagnosis ☐

Name of Participant: Participant Address: Date of Birth:

Participants' Signature: **Date**:

Name of Researcher: Claire Norfolk **Researcher Signature:** **Date:**

Choices about Feedback

Please tick the "yes" or "no" boxes below to let us know whether you would like to receive any feedback from the study:

	Yes	No
I would like to receive feedback about my individual responses on the questionnaire	☐	☐
I would like to be provided with a copy of the study's key findings	☐	☐

Appendix 18

Letter to GP: Index Parents Recruited within NHS

Dear Dr

RE: Understanding Children's Behaviour: the Role of Parental Mental Health
RE: (Participant name) (Date of birth)

I am writing to inform you that your patient, identified above, has agreed to participate in the above study.

In this study, we would like to find out more about the experiences of parents with different types of mental health problems. We are recruiting 20 parents with a confirmed diagnosis of a Cluster B personality disorder and 20 parents with mild to moderate depression and anxiety. All parents who participate in the study will be asked to complete a questionnaire. This will ask them questions about typical childhood behaviours and about their perceptions of their own child's behaviour. The questionnaires also include one or two standardised mental health screening measures. Your patient has been asked if they would like to take part in this study because we understand that he/she has a confirmed diagnosis of a Cluster B personality disorder i.e. he/she has been given a diagnosis of Borderline, Narcissistic, Antisocial or Histrionic Personality Disorders or the equivalent diagnoses as categorised by ICD-10 .

We do not expect the study to produce information of direct clinical relevance to individual participants involved in this research. In the unlikely event that something of clinical importance is identified, I will of course inform you as soon as possible.

If you wish any further information, please do not hesitate to contact me by phone or post.

Yours sincerely,

Claire Norfolk
Specialist Clinical Psychologist
Child & Adolescent Mental Health Service
Edenhall Hospital

Tel: 0131 537 8188

Appendix 19

Letter to GP: Control Parents

Dear Dr

RE: Understanding Children's Behaviour: the Role of Parental Mental Health
RE: (Participant name) (Date of birth)

I am writing to inform you that your patient, identified above, has potentially agreed to participate in the
above study.

In this study, we would like to find out more about the experiences of parents with different types of mental health problems. We are recruiting 20 parents with a confirmed diagnosis of a Cluster B personality disorder and 20 parents with mild to moderate depression and anxiety. All parents who participate in the study will be asked to complete a questionnaire. This will ask them questions about typical childhood behaviours and about their perceptions of their own child's behaviour. The questionnaires also include one or two standardised mental health screening measures. Your patient has been asked if they would like to take part in this study because we understand that he/she is currently seeing a mental health clinician for psychological support with symptoms of mild to moderate depression or anxiety.

If you wish any further information, please do not hesitate to contact me by phone or post.

Yours sincerely,

Claire Norfolk
Specialist Clinical Psychologist
Child & Adolescent Mental Health Service
Edenhall Hospital

Tel: 0131 537 8188

Appendix 20

Letter to Named Clinician: Index Parents Recruited out with NHS

Dear (NAMED CLINICIAN)

RE: Understanding Children's Behaviour: the Role of Parental Mental Health
RE: (Participant name) (Date of birth) (Address)

I am writing to inform you that your client, identified above, has agreed to participate in the above study and has given us permission to request further information about their mental health diagnosis.

In this study, we would like to find out more about the experiences of parents with different types of mental health problems. We are recruiting 20 parents with a confirmed diagnosis of a Cluster B personality disorder and 20 parents with mild to moderate depression and anxiety. All parents who participate in the study will be asked to complete a questionnaire. This will ask them questions about typical childhood behaviours and about their perceptions of their own child's behaviour. The questionnaires also include one or two standardised mental health screening measures.

Your client has been asked if they would like to take part in this study because we understand that he/she has a confirmed diagnosis of a Cluster B personality disorder i.e. he/she has been given a diagnosis of Borderline, Narcissistic, Antisocial or Histrionic Personality Disorders or the equivalent diagnoses as categorised by ICD-10.

We do not expect the study to produce information of direct clinical relevance to individual participants involved in this research. In the unlikely event that something of clinical importance is identified, we will of course inform you as soon as possible.

As this is a scientific study, we are required to confirm the diagnosis of the participants in the study. Your client has requested that we contact you to confirm this diagnosis. A copy of their signed consent form is enclosed with this letter to confirm that you have been given permission to share this information with us. We would be grateful if you would complete the slip below with the details of your client's diagnosis and return it to the researcher in the enclosed stamped addressed envelope.
If you wish any further information, please do not hesitate to contact me by phone or post.
Yours sincerely,

Claire Norfolk
Specialist Clinical Psychologist, Child & Adolescent Mental Health Service

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Name of Participant: _____
Please specify the nature of the participant's Personality Disorder Diagnosis and, if known, provide details of the year of diagnosis and the profession of the clinician who diagnosed it, e.g. DSM-IV Borderline Personality Disorder or ICD-10 Histrionic Personality Disorder, 1995, consultant psychiatrist in Adult Mental Health

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Appendix 21

Additional Information Provided to Participants and Clinician/Key-workers/Facilitators in Relation to National and Local Services for Children, Parents and Families (Example from Lothian)

Parents

Young Minds Parents Helpline
for parents concerned about the mental health and emotional well-being of their children.
Tel: 0808 802 5544 Email: http://www.youngminds.org.uk/contact-us

Parentline Plus Helpline offers emotional and practical support to parents. Tel: 0808 800 2222

Health In Mind
A local service that offers information, advice & support to people with mental health difficulties.
Tel: 0131 225 8508 Email: contactus@health-in-mind.org.uk
Website: http://www.health-in-mind.co.uk

SEHLI
A local Service that offers complementary therapies and self-help groups to support stressed parents in South East Edinburgh. Self-referral. Tel: 0131 664 0555
Email: enquiries.sehli@btconnect.com Website: http://www.healthylivingsouthedinburgh.co.uk

Children & Young People

Children 1st
Befriending for children affected by family difficulties or emotional difficulties
Tel: 0131 319 8073 Email: bfriends@children1st.org.uk Website: http://www.bfriends.org.uk/

Young Carers
Offers children who care for parents with mental or physical health difficulties opportunities to engage in activities, groups or one-to-one support.
Tel: 0131 475 2322 Email:info@youngcarers.org.uk Website: http://www.youngcarer.com

Crossreach Counselling
Offers talking, play and family therapy for children in Edinburgh and East Lothian. Self-referral.
Tel: 0131 657 2000 Email: info@crossreach.org.uk Website: http://www.crossreach.org.uk

Mypas Offers art therapy and counseling to children aged 12 and over in Midlothian. Self-referral.
Tel: 0131 454 0757 Email: http://www.mypas.co.uk/contact Website: http://www.mypas.co.uk

Richmond Hope Bereavement
Offers one-to-one and group support for children who have suffered a bereavement.
Tel: 0131 661 6818 Email: richmondshope@tiscali.co.uk
Website: http://www.richmondshope.org.uk

Relationships Scotland
Offers groups and one-to-one counselling for children who have experienced divorce or separation.
Tel: 0131 226 4507 Email: info@familymediationlothian.org

Child & Adolescent Mental Health Service
Multi-professional teams (nursing, psychology, psychiatry, occupational and play therapists)
Offer support to children where there is an emotional, behavioural or other mental health concern. Referral via GP, schools or other professional involved with the family. 0131 536 0534 / 0131 537 6364.

Supports for Families

Home Start
Offers support to families with at least one child under 5 who are feeling isolated or struggling to cope because of their own or their child's illness or the loss of a loved one. Self-referral.
Tel: 0800 068 63 68 Email: support@home-start.org.uk Website: http://www.home-start.org.uk

Home LinK
Offers befriending, 1-to-1 support and family work to families with at least one child under 5 who are under stress/ experiencing difficulties in SW & SE Edinburgh and Midlothian. Self-referral.
Tel: 0131 661 0890 Email: homelink@tinyworld.co.uk Website: http://www.homelinkbefriending.org

Gingerbread Childcare Service
A local service that offers after school care, breakfast clubs and school holiday play-schemes for lone parent families. Self-referral. Tel: 0131 478 1391 Email: gingerbread@wwmail.co.uk

Family Support Team
Offers 1-to-1, group, school and therapeutic supports to parents & children in the SE Edinburgh with children under 13 with social, emotional or behavioural difficulties. Self-referral for children under 5. Older children, referral via schools. Tel: 0131 468 2580 Email: fst@children1st.org.uk

Young Families Outreach Project
Offers 1-to-1 support to families in East Lothian who have children under 8. Tel: 01875 824000
Email: macmerry@children1st.org.uk

Sure Start Centres
Offer respite, 1-to-1, counselling, parenting & peer support to parents with children under 3 years.
Midlothian: 0131 654 0489 Leith: 0131 467 7052

Parents On-line

Information & advice on the emotional and behaviour difficulties experienced by children
http://www.youngminds.org.uk/parents

Parenting support and advice http://www.parentlineplus.org.uk

Children & Young People On-line

Advice for children and young people coping with difficult feelings or mental health difficulties:
http://www.youngminds.org.uk/children http://www.youngminds.org.uk/young-people

Offers advice & support for teenagers experiencing low mood/depression and stress/anxiety
www.depressioninteenagers.co.uk http://www.stressandanxietyinteenagers.co.uk/

Offers advice & support for young carers http://www.youngcarers.net/

Offers advice and support for children after a bereavement
http://www.rd4u.org.uk/

The Neglected Parental Mental Health Problem?
Parental Personality Disorder

What is the aim of the study?

In this study we would like to understand more about the experiences of parents with personality disorders.
A large number of studies have looked at the experiences of parents with other mental health difficulties like depression or anxiety.
However, very few studies have looked at the experiences of parents with personality disorders.

We know that many people with personality disorders can find relationships difficult and have had difficult experiences in their own childhood. This may make it more difficult for them as a parent. However, studies also suggest this can often be a particularly positive relationship: "She is a chance to make things right; "She is the most important person in my life".
In this study, we would like to learn more about the way parents with personality disorders see their children and understand children's behaviour.

Who is invited to take part in the study?

We would really like to hear from you if you have been given a diagnosis of
an Emotionally-unstable, Dissocial, Borderline, Histrionic, Narcissistic or Antisocial Personality Disorder
and you are also a parent or have a parenting role with a child between 3 and 16 years old.

What would be involved if I chose to take part?

If you chose to take part in this study, we will send you some more information about the study and a questionnaire to complete. The questionnaire will describe examples of children's behaviour and will ask you about how you would feel or respond to these and what you would see as the reasons for the behaviour. The questionnaire will also ask you about your own child's behaviour and about your general mental health. All the information you provide will be completely confidential and will not be shared with anyone involved in your own or your children's care.

How can I take part in this study?

If you would like to take part in this study or would like to find out more about the study, please contact Claire Norfolk
on 0131 536 8188 or Claire.Norfolk@nhs.net

Appendix 22

Appendix 23

Poster for Clinicians Inclusion Criteria (Index Parents' Version)

Parents with a Cluster B Personality Disorder

Thank you for helping with this study

Inclusion criteria:

- Confirmed diagnosis of a Cluster B personality disorder or ICD-10 equivalent
  (Borderline, Narcissistic, Histrionic, Anti-social, Dissocial or Emotionally-unstable Personality Disorder)

- Parental Role with at least one child aged 3-16 years
  *Parental role includes fathers, mothers, individuals living with partner's children, step-parents, foster or adopted parents, parents who are not key caregiver but have continued contact with biological children.

Claire Norfolk: 07766092233 claire@randomsequence.com

Appendix 24

Frequently Asked Question Clinician Poster (Control Parent Version)

Frequently asked questions?

What are the main inclusion criteria?

1. Presenting problem = anxiety and/or depression
2. Parental role with at least one child between 3 and 16 years old
3. Total score on the core < 85 (total score) or 2.5 (average total score)

Is the questionnaire only for mothers?

No. Parental role would also include fathers, step-parents, foster parents, adopted parents, individuals living with a partner's children and parents who are not the key carer but continue to have contact with their biological child.

Is it ok to include parents of children with additional needs or mental health difficulties?

Yes. The questionnaire will gather information on the number of children and the types of difficulties that children present with so that we can control for these factors during the data analysis.

Is the questionnaire data anonymous?

Yes. There is no way of identifying clients from their questionnaires. However, to ensure that individuals' GPs are aware of their clients' potential participation, clinicians would be asked to complete the back of the clinician information sheet with the details of the client and their GP and forward this to the researcher. It will not be possible to match this personal information with the questionnaire once they are returned.

Do I need to be sure that participants do not have severe mental health difficulties?

No. Although the criteria for the control group will be individuals with mild to moderate mental health difficulties as defined by the CORE, this information will also be gathered in the questionnaire that participants fill out. If you are unsure whether participants would meet the criteria, you may still include them in the study, any participants scoring in the severe range on the CORE can be excluded from the control group before the data analysis.

Do I need to be sure that participants do not have additional personality difficulties?

No. Individuals who choose to participate in the study will be asked to complete a personality disorder screening measure as one of the assessment measures in the questionnaire, any participants scoring above the cut-off on this questionnaire would be excluded from the control group before the data is analysed.

Appendix 25

Tests of normality in relation to the dependent variables for index and control mothers

Table 16: Shapiro-Wilk tests to assess the normality of the distribution of dependent variables within the index and control group

	Index Mothers			Control Mothers		
	Shapiro-Wilk Statistic	d.f.	Significance	Shapiro-Wilk Statistic	d.f.	Significance
Total Score (CV)	0.872	9	p=0.128	0.874	9	p=0.134
Punishment (CV)	0.964	9	p=0.841	0.866	9	p=0.112
Negative Attribution (CV)	0.836	9	p=0.052	0.748	9	p=0.005
Logarithm of Negative Attribution (CV)	0.904	9	p=279	0.842	9	p=0.060
Adult Control over Failure (PAT)	0.826	9	p=0.04	0.724	9	p=0.003
Child Control over Failure (PAT)	0.915	9	p=0.354	0.948	9	p=0.668
Perceived Control over Failure (PAT)	0.882	9	p=0.164	0.817	9	p=0.032
Strengths & Difficulties Questionnaire (SDQ-P)	0.906	9	p=0.289	0.917	9	p=0.368
Beck Depression Inventory (BDI-II)	0.836	9	p=0.052	0.974	9	*p=0.924*

(p values above 0.05, highlighted in blue, indicate a violation of the normal distribution)

Appendix 26

Histograms indicating Skewness and Kurtosis of ACF and PCF sub-scales of Parent Attribution Test for Index and Control Mothers

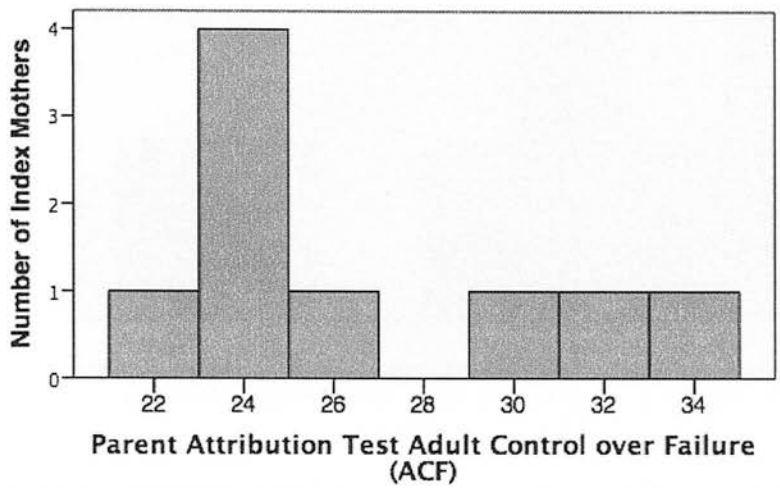

Figure 8: Histogram of Frequency of Total Scores on Adult Control over Failure (ACF) sub-scale for Index Mothers (Skewness[1] 0.83 Kurtosis[2] (-1.19))

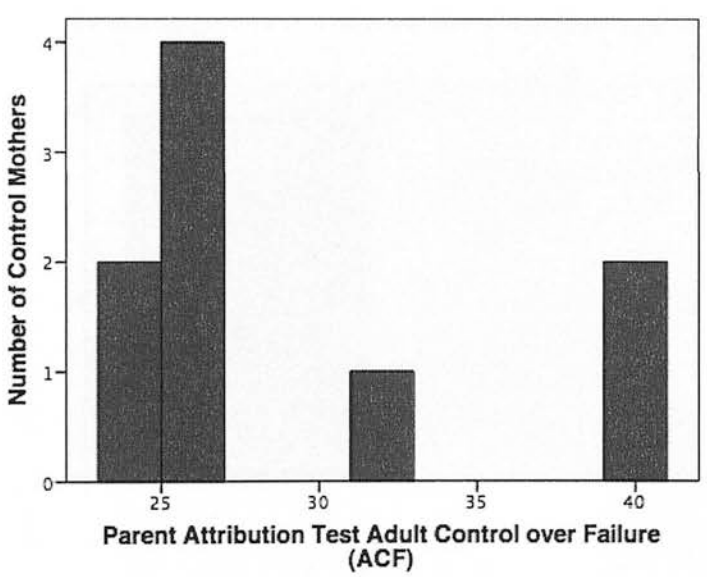

Figure 9: Histogram of Frequency of Total Scores on Adult Control over Failure (ACF) sub-scale for Control Mothers (Bi-modal distribution with Skewness 1.23, Kurtosis -0.22)

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1 Skewness values = 0 are understood to equate to normal distribution. Skewness values> 0 indicate positive skewness, that is scores clustering to the left of the midline.
Skewness values <0 indicate negative skewness, that is scores clustering to the right of the midline.

[2] Kurtosis scores quoted represent (3-kurtosis), where values = 0 equate to normal distribution, values > 0 indicate more peaked distributions and values <0 indicate more flattened distributions.

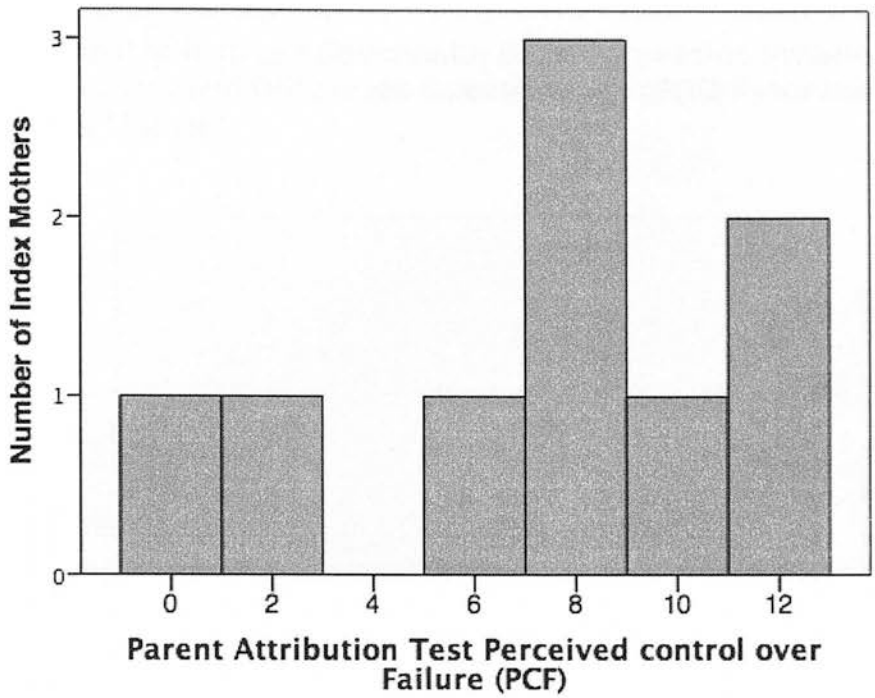

Figure 10: Histogram of Frequency of Total Scores on Perceived Control over Failure (PCF) sub-scale for Index Mothers (Skewness (-0.81) Kurtosis (-0.388))

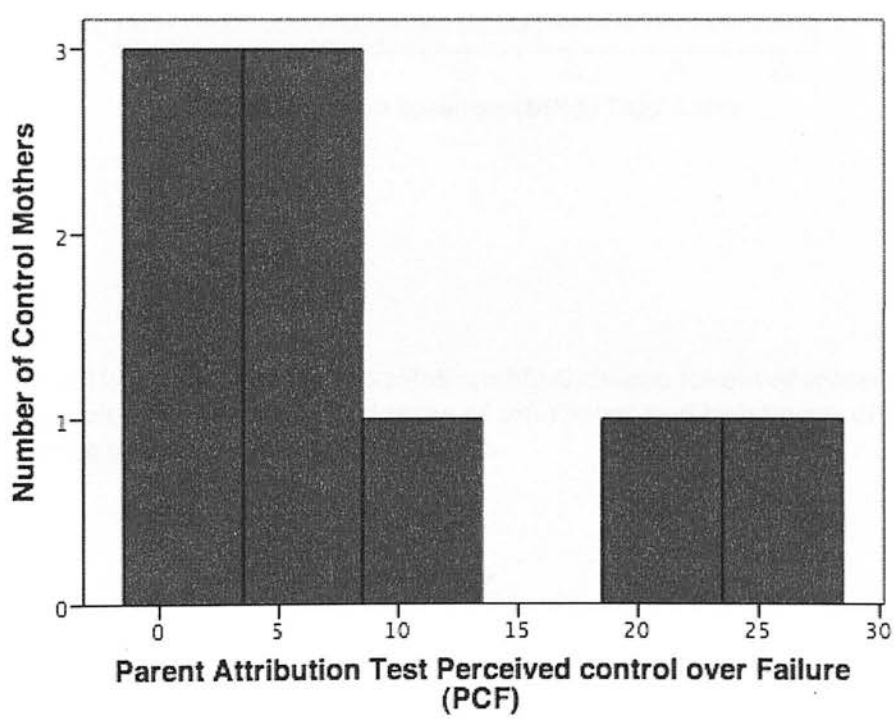

Figure 11: Histogram of Frequency of Total Scores on Perceived Control over Failure (PCF) sub-scale for Control Mothers (Skewness 1.38, Kurtosis 0.88)

Appendix 27

Relationship between Covariants: Beck Depression Inventory (BDI-II) and Strength and Difficulties Questionnaire (SDQ-P) for Index and Control Mothers

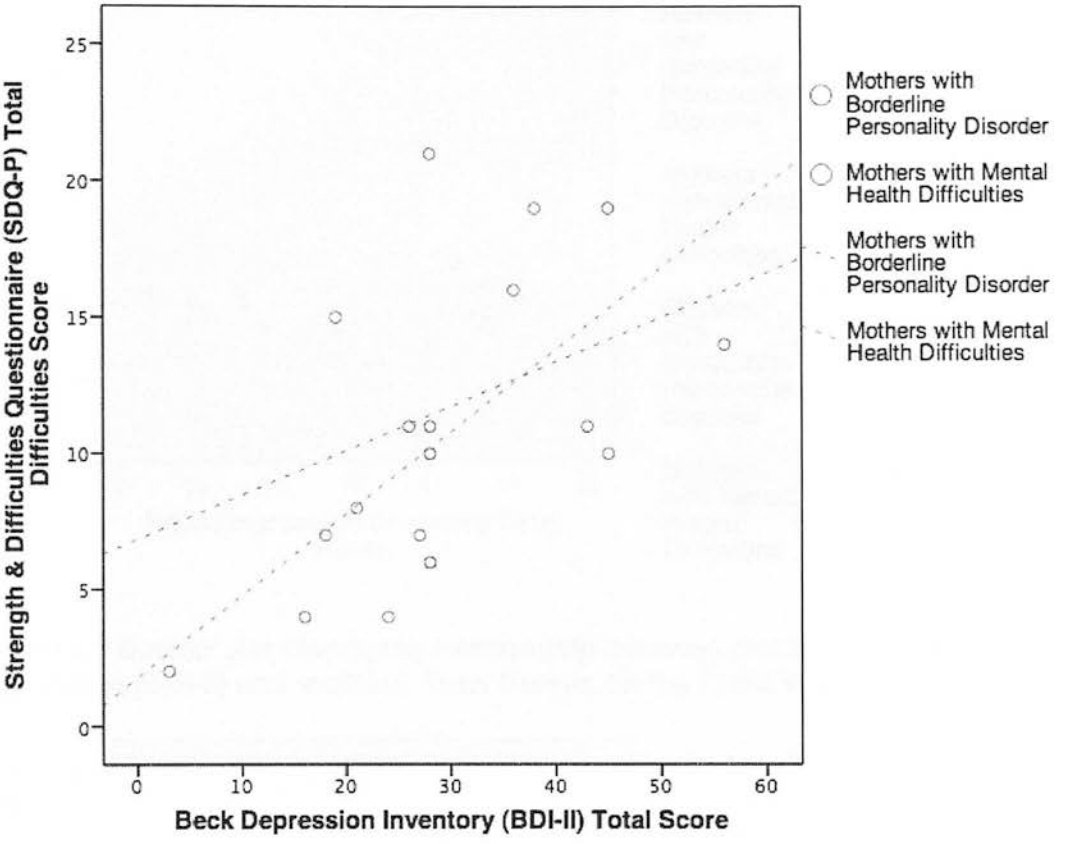

Figure 12: Scatter plot of the relationship between levels of maternal depression (BDI-II) and the degree of emotional and behaviour difficulties experienced by participants' children

Appendix 28

Scatter plots Exploring Relationship between Covariants (BDI-II and SDQ-P) and the Child Vignettes for Index and Control Mothers

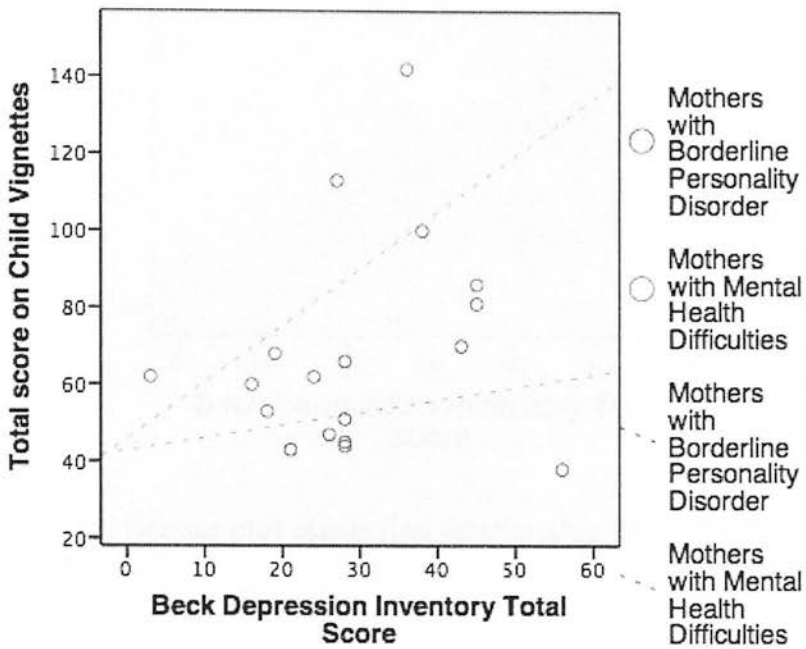

Figure 13: Scatter plot displaying relationship between mothers' levels of depression (BDI-II) and mothers' Total Scores on the Child Vignettes

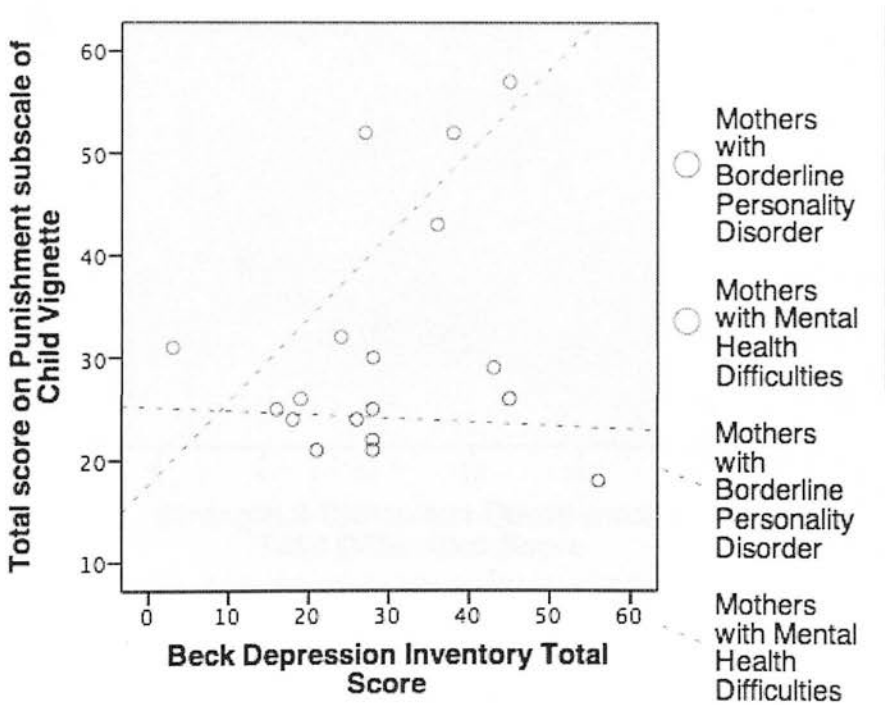

Figure 14: Scatter plot displaying relationship between mothers' level of depression (BDI-II) and mothers' total scores on the Punishment sub-scale of the Child Vignettes

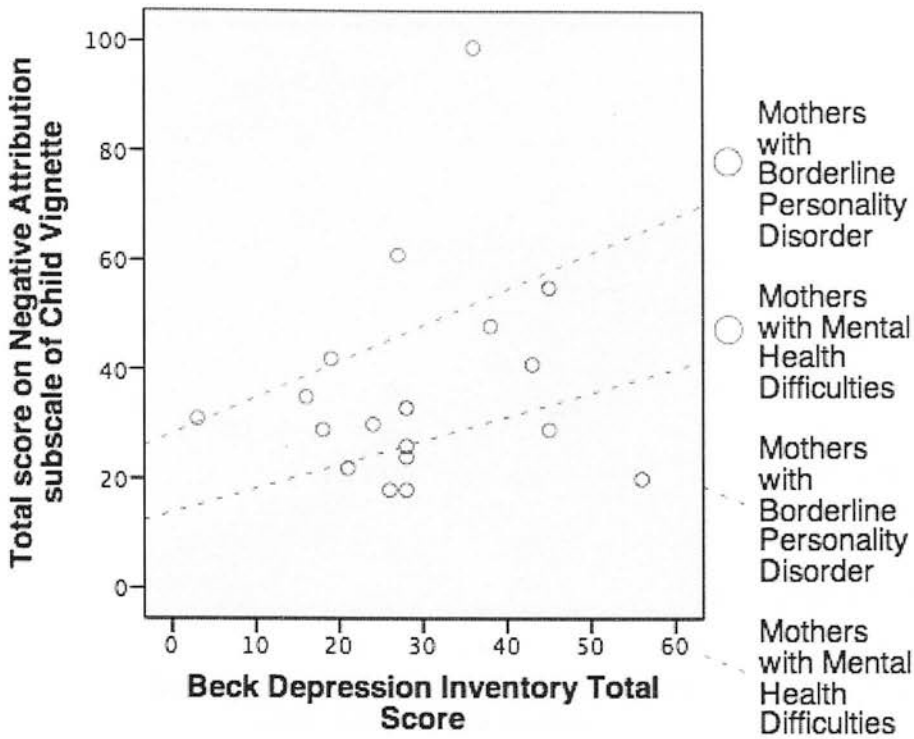

Figure 15: Scatter plot displaying relationship between mothers' level of depression (BDI-II) and mothers' total scores on the Negative Attribution sub-scale of the Child Vignettes

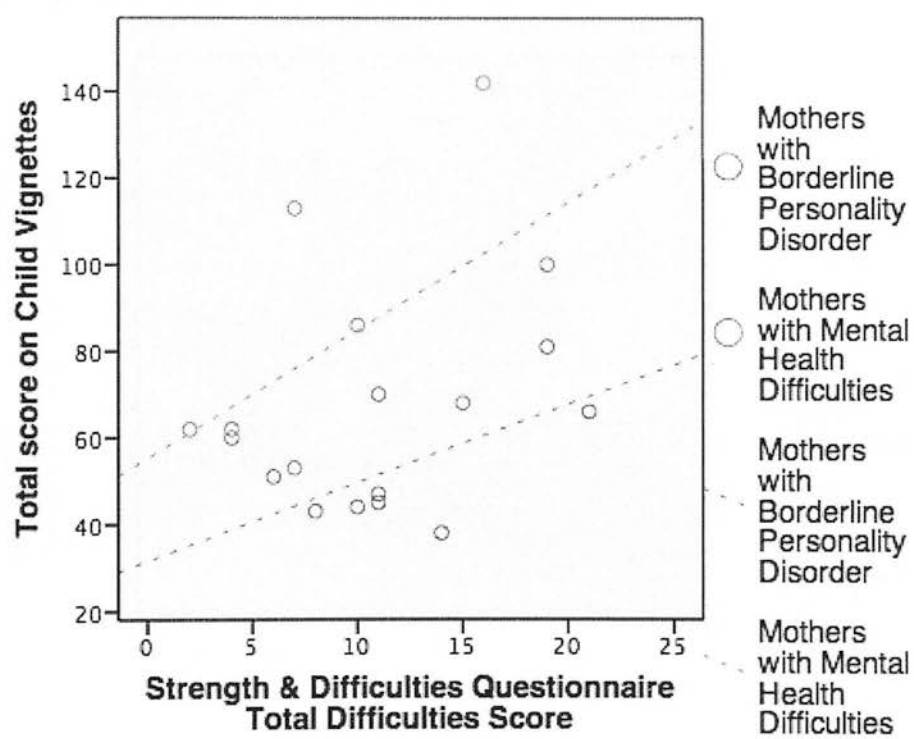

Figure 16: Scatter plot displaying relationship between the level of emotional and behaviour difficulties of target child (SDQ-P) and mothers' Total Scores on the Child Vignettes.

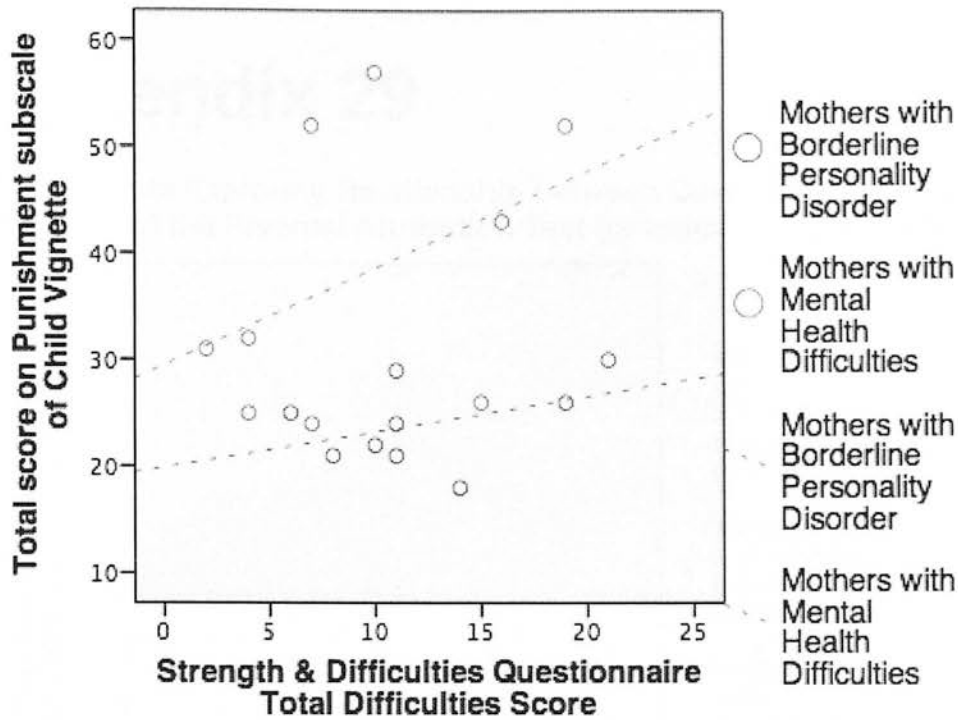

Figure 17: Scatter plot displaying relationship between the level of emotional and behaviour difficulties of target child (SDQ-P) and mothers' scores on the Punishment sub-scale on the Child Vignettes.

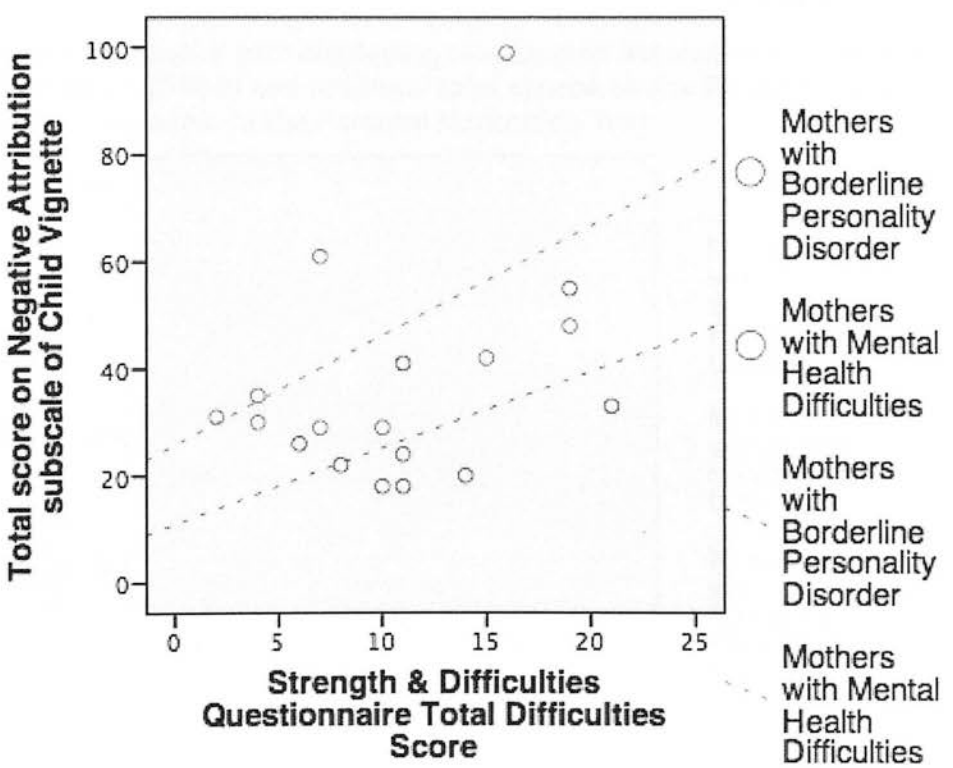

Figure 18: Scatter plot displaying relationship between the level of emotional and behaviour difficulties of target child (SDQ-P) and mothers' total scores on the Negative Attribution sub-scale of the Child Vignettes.

Appendix 29

Scatter plots Exploring Relationship between Covariants (BDI-II and SDQ-P) and the Parental Attribution Test for Index and Control Mothers

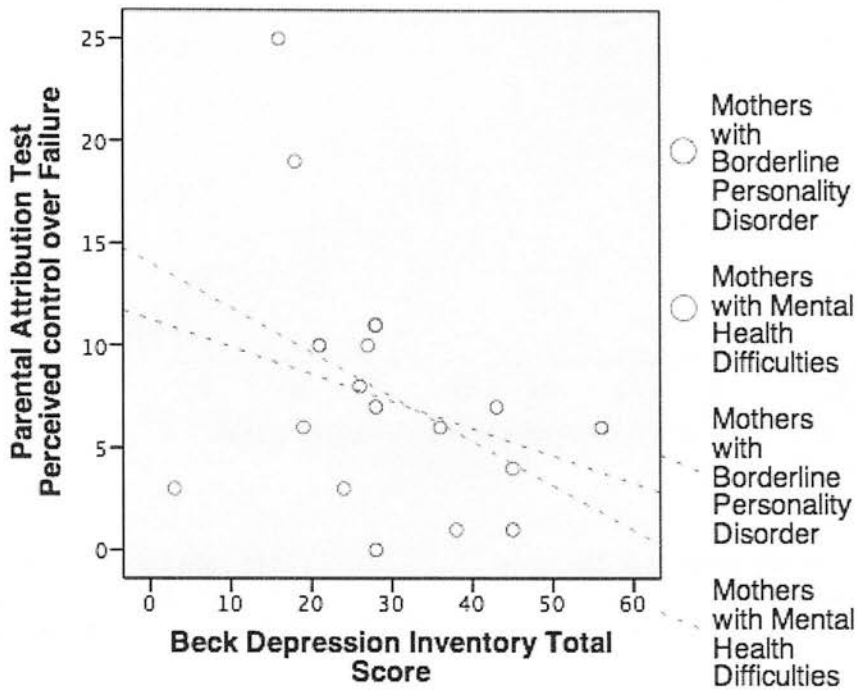

Figure 19: Scatter plot displaying relationship between mothers' level of depression (BDI-II) and mothers' total scores on the Perceived Control over Failure sub-scale of the Parental Attribution Test

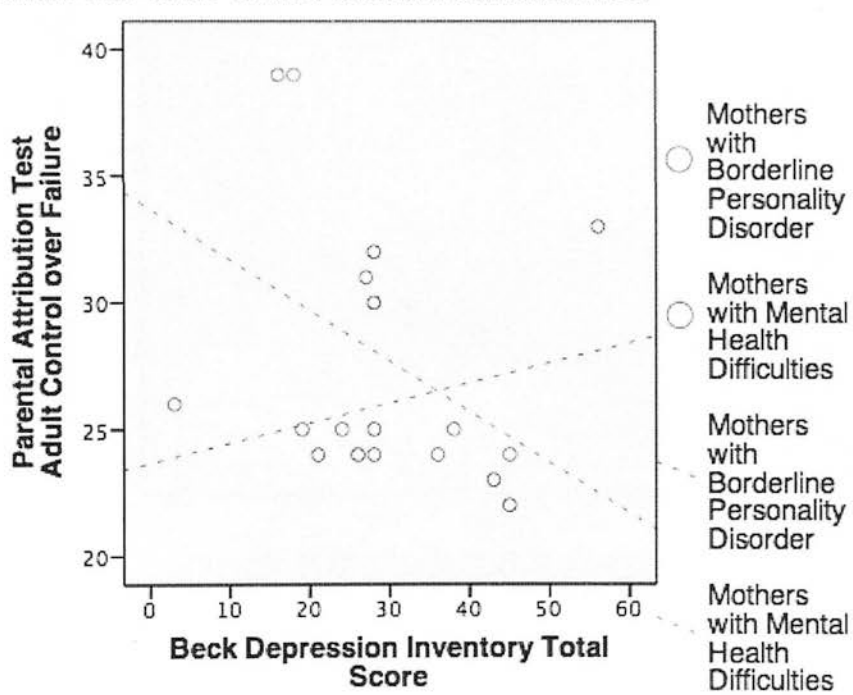

Figure 20: Scatter plot displaying relationship between mothers' level of depression (BDI-II) and mothers' total scores on the Adult Control over Failure sub-scale of the Parental Attribution Test

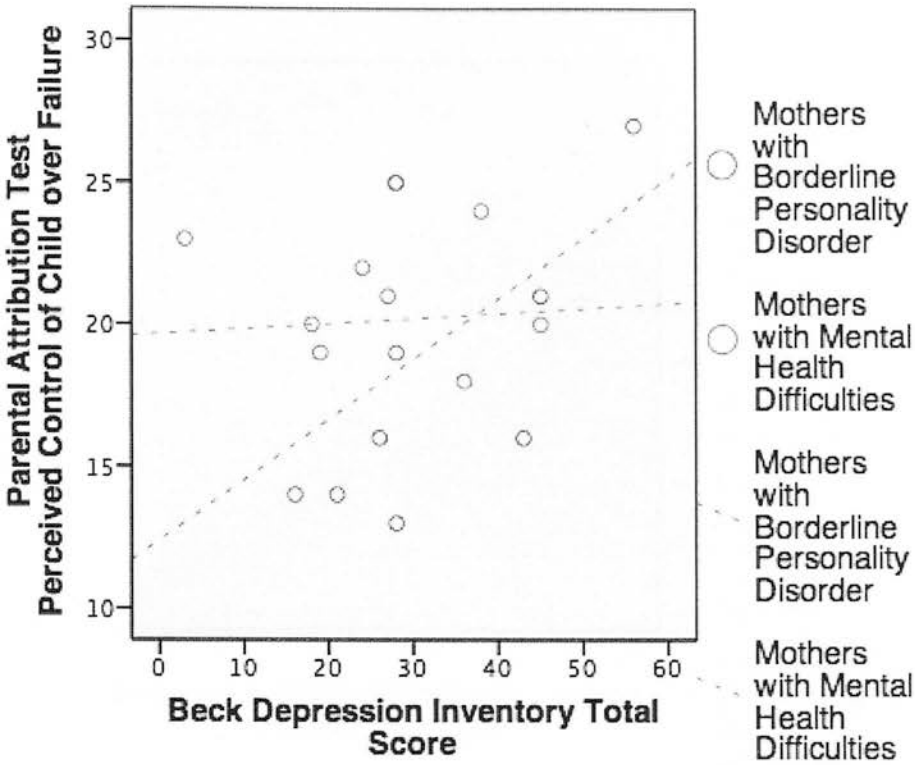

Figure 21: Scatter plot displaying relationship between mothers' level of depression (BDI-II) and mothers' total scores on the Child Control over Failure sub-scale of the Parental Attribution Test

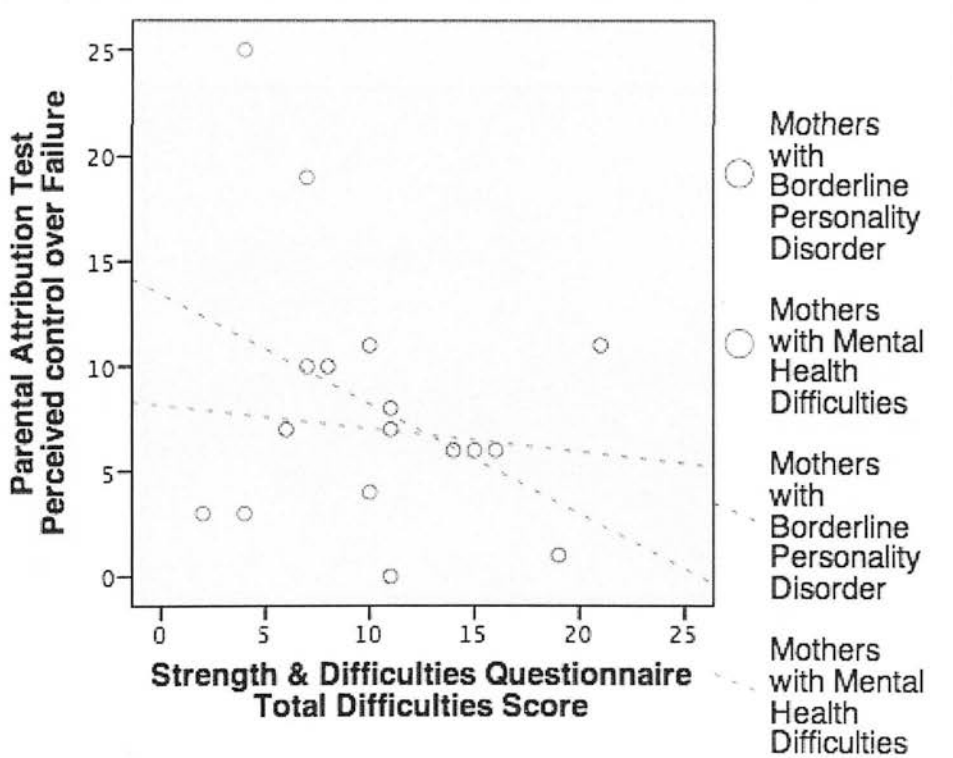

Figure 22: Scatter plot displaying relationship between the level of emotional and behaviour difficulties of target child (SDQ-P) and mothers' total scores on the Perceived control over Failure sub-scale of the Parental Attribution Test

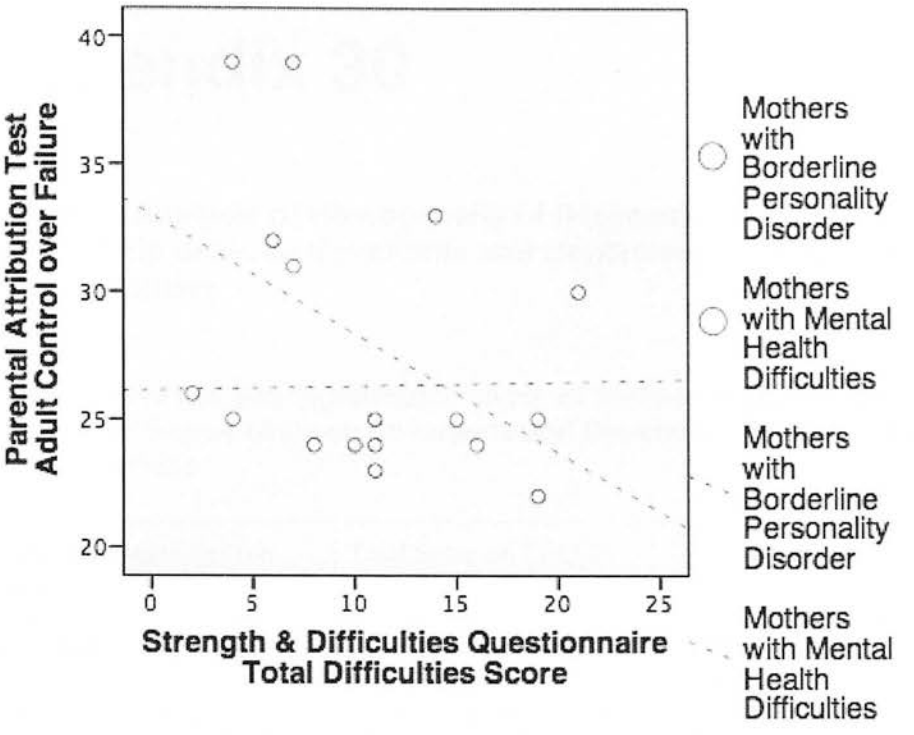

Figure 23: Scatter plot displaying relationship between the level of emotional and behaviour difficulties of target child (SDQ-P) and mothers' total scores on the Adult Control over Failure sub-scale of the Parental Attribution Test.

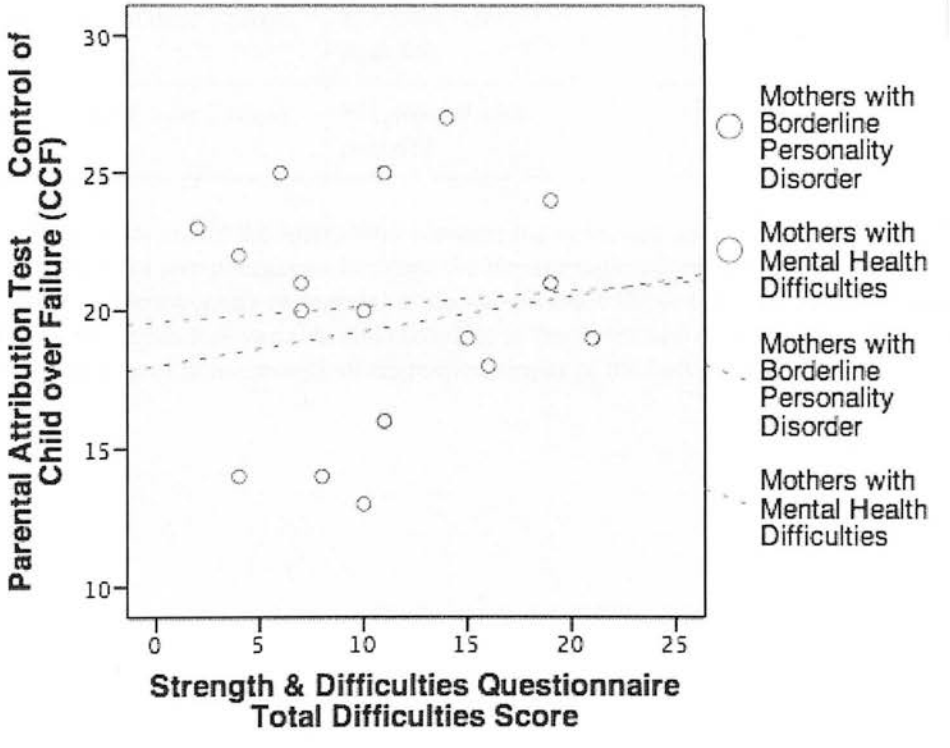

Figure 24: Scatter plot displaying relationship between the level of emotional and behaviour difficulties of target child (SDQ-P) and mothers' total scores on the Child Control over Failure sub-scale of the Parental Attribution Test.

Appendix 30

Statistical Analysis of Homogeneity of Regression Slopes in the Relationship between Covariants and Dependent Variable in Index and Control Mothers

Table 18: F-values and Significance levels of Tests of the Homogeneity of Regression Slopes between Covariants and Dependent Variables in Index and Control Mothers

Dependent Variable (sub-scale)	Total Score on SDQ-P	Total Score on BDI-II
Total Score (CV)	$F(1,16) = 0.370$ $p=0.553$	$F(1,16)= 1.836$ $p=0.197$
Punishment Sub-scale (CV)	$F(1,16) = 2.655$ $p=0.124$	$F(1, 16)= 3.876$ $p=0.069$
Logarithm transformation of Negative Attribution (CV)	$F(1,16)= 0.006$ $p=0.942$	$F(1,16)= 0.001$ $p=0.976$
Perceived Control over Failure (PAT)	$F(1,16) = 0.474$ $p=0.502$	$F(1,16) = 0.102$ $p=0.755$
Adult Control over Failure (PAT)	$F(1,16)= 0.977$ $p=0.340$	$F(1,16) = 1.666$ $p=0.218$
Child Control over Failure (PAT)	$F(1,16) = 0.184$ $p=0.674$	$F(1,16) = 1.320$ $p=0.270$

(Statistical tests model the interaction between the covariant and dependent variable in each group to test for any interaction between the linear relationships that would indicate a violation of homogeneity of regression slopes. p values above 0.05, indicate the relationship between the dependent variable and covariant in the index and control group does not violate the assumption of homogeneity of regression slopes in the two groups)

Table 20: F-values and Significance levels of Levene's Test of Equality of Error Variance in the Dependent Variables in Index and Control Mothers

Dependent Variable (sub-scale)	Total Score on SDQ-P
Total Score (CV)	$F(1,16) = 3.95, p=0.064$
Punishment Sub-scale (CV)	$F(1,16) = 5.77, p=0.029$
Logarithm transformation of Negative Attribution (CV)	$F(1,16)= 0.039$, p=0.846
Perceived Control over Failure (PAT)	$F(1,16) = 2.313, p=0.148$
Adult Control over Failure (PAT)	$F(1,16)= 0.356, p=0.559$
Child Control over Failure (PAT)	$F(1,16) = 2.925, p=0.107$

(The Levene's Test of Equality of Errors Variance tests the null hypothesis that the error variance of the dependent variable is equal across groups. p values above 0.05, indicate equality of variance. p values under 0.05 (highlighted in blue) indicate a violation of this assumption)